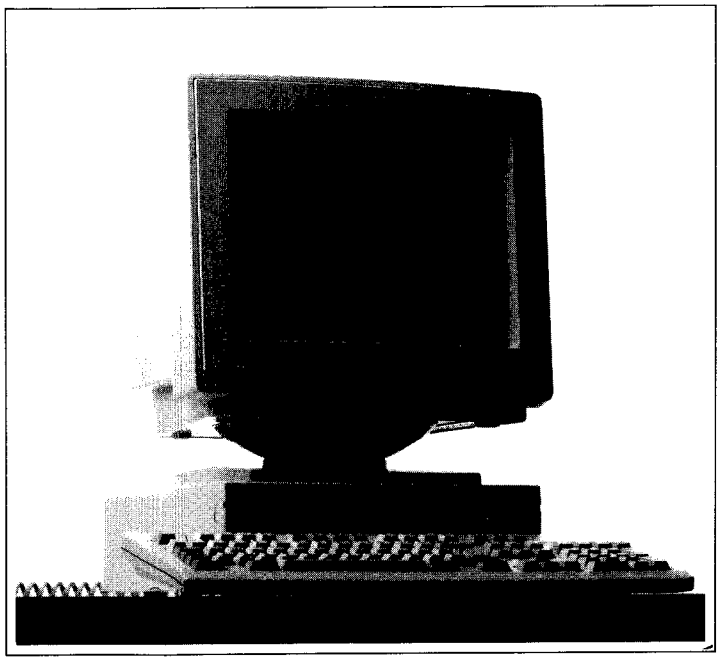
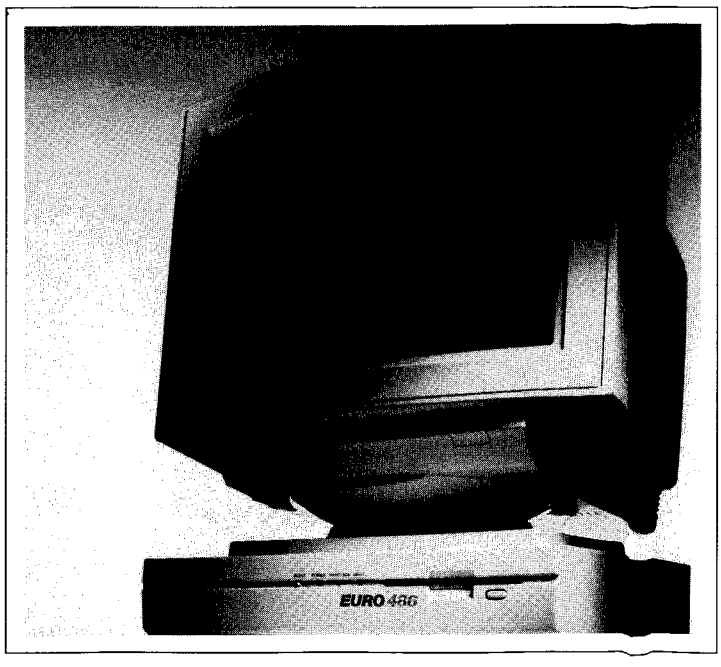
# Kundendienst-Handbuch
# Service manual

Schneider

# SYSTEMEINHEIT

## EURO AT II
## EURO 486 SX





## ********* ACHTUNG! *********

Für Daten aller Art, die sich bei Einsendung an die Firma Schneider, im Servicefall oder in jedem anderen Fall noch auf einem Datenträger befinden, wird bei Verlust oder Beschädigung keinerlei Haftung übernommen!
Bitte, sichern Sie sich Ihre Daten vorher von Ihrem Datenträger. Wie man eine Sicherungskopie erstellt, können Sie in Ihrer MS-DOS-Betriebsanleitung nachlesen.

## ********* IMPORTANT! *********

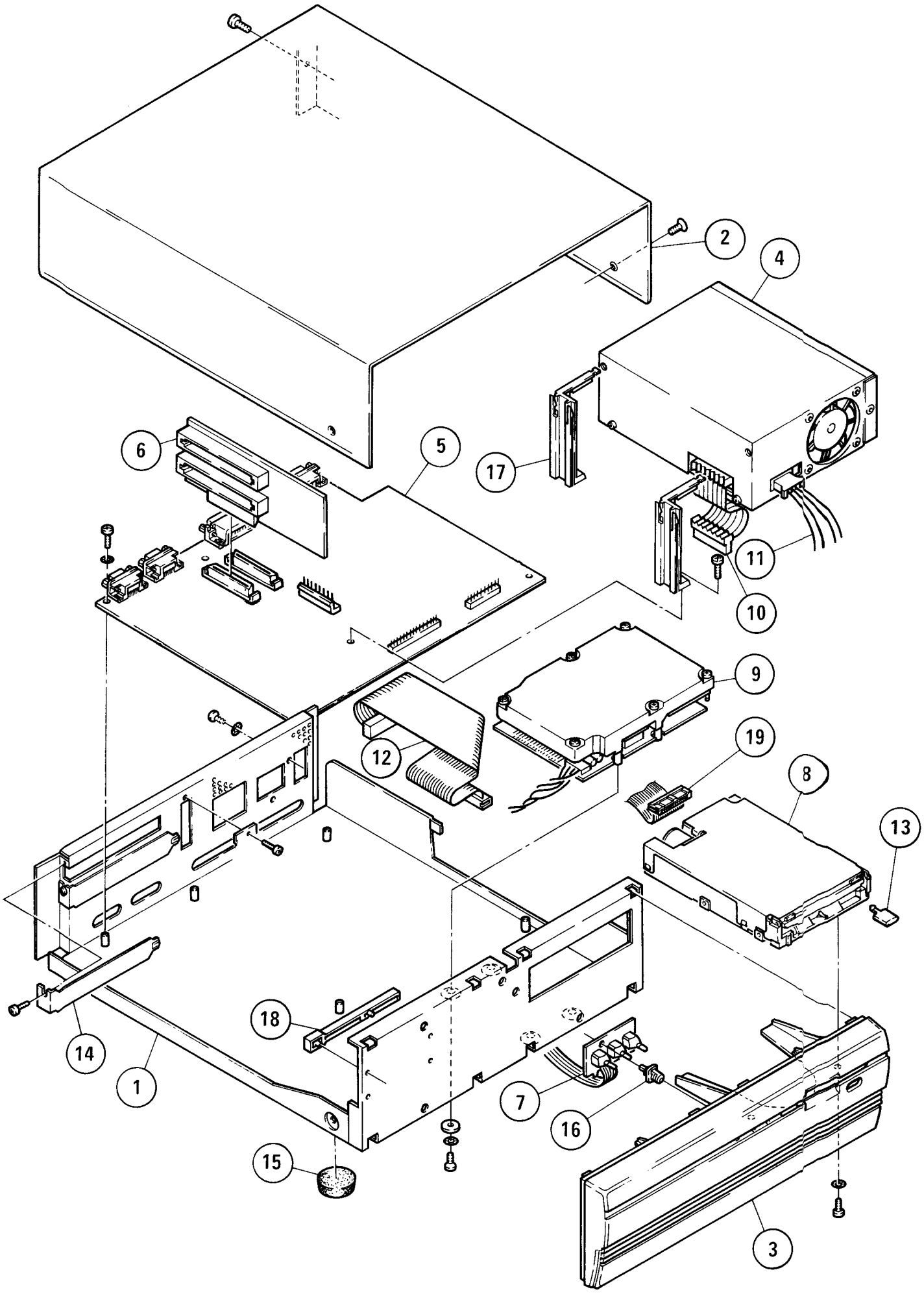
We accept no responsibility for the loss of or damage to data of any kind which is still contained on a data carrier which is sent to Schneider for servicing or for any other reason!
Please copy your data from your data carrier beforehand. You can read how to produce a backup copy in your MS-DOS operating instructions.

# Kundendienst-Handbuch
# Service manual

Schneider

## SYSTEMEINHEIT
## EURO AT II

# Exploded view



# Ersatzteilliste für Euro AT II 16 MHz/20 MHz
# Parts list for Euro AT II 16 MHz/20 MHz

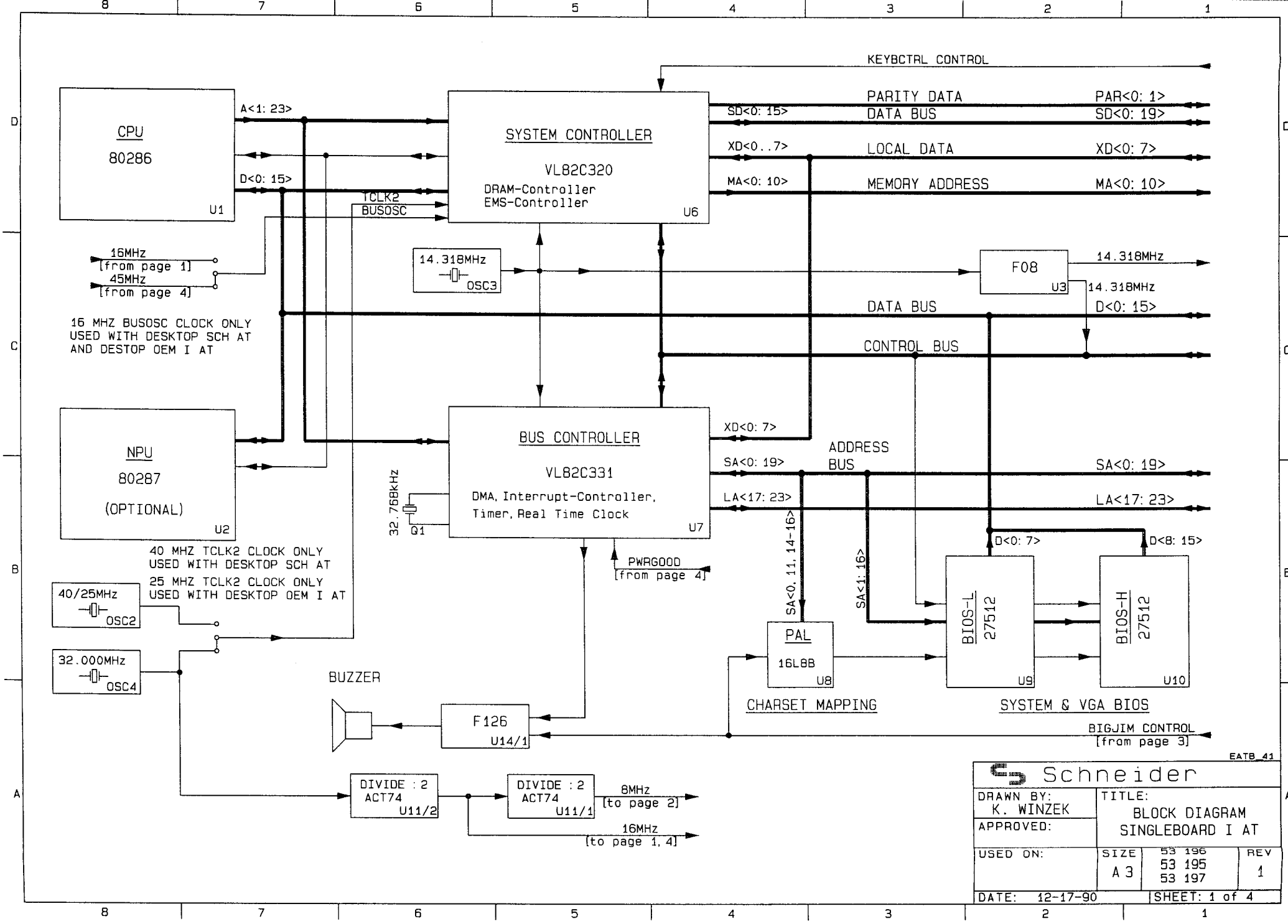
| Best.-Nr. Part.-No. | Bezeichnung | Description | Zeich.-Pos. Ref.-No. | Preisgruppe Price key |
|---|---|---|---|---|
| 51 451 00 | Styropor | Polyfoam | | C 1 |
| 51 452 00 | Faltkarton | Gift box | | C 0 |
| 51 290 00 | Gehäuseunterteil | Cabinet, bottom | 1 | D 4 |
| 52 628 00 | Gehäuseoberteil | Cabinet, top | 2 | D 2 |
| 53 341 00 | Frontblende | Front mask | 3 | C 3 |
| 51 467 00 | Netzteil Euro | Power supply | 4 | F 9 |
| 53 195 00 | Platine CPU 16 MHz | P.C.B. CPU 16 MHz | 5 | J 9 |
| 53 457 00 | Platine CPU 20 MHz | P.C.B. CPU 20 MHz | 5 | K 3 |
| 51 620 00 | Platine Steckplatz | P.C.B. slot | 6 | D 8 |
| 52 631 00 | Platine LED | P.C.B. LED | 7 | C 2 |
| 50 021 00 | Floppylaufwerk 1,44 MB | Floppy disk drive 1.44 MB | 8 | F 9 |
| 51 550 00 | HD-Laufwerk 40 MB | Hard disk drive 40 MB | 9 | J 4 |
| 53 145 00 | Verbindungskabel, Netz-CPU | Cable, connection | 10 | C 1 |
| 51 458 00 | Adapterkabel HD 4pol. | Cable, adapter | 11 | B 4 |
| 53 338 00 | HD-Kabel | Cable, HDD | 12 | C 0 |
| 50 294 00 | Druckknopf für FDD (Sony) | Pushbutton FDD (Sony) | 13 | A 5 |
| 50 020 00 | Blindblech | Plate, blind | 14 | A 6 |
| 51 456 00 | Gehäusefuß | Leg, cabinet | 15 | A 4 |
| 51 457 00 | Platinenhalter | Holder | 16 | A 3 |
| 51 262 00 | Führungsschiene Steckplatz | Guide rail, slot | 17 | A 6 |
| 52 612 00 | Führungsschiene Steckkarte | Guide rail, socket card | 18 | A 4 |
| 51 443 00 | Kabelbaum FDD | Cord, FDD | 19 | B 6 |
| 52 632 00 | Druckknopf Reset | Push-button Reset | | A 6 |
| 52 794 00 | Kabelbaum LED | Cord, LED | | B 1 |
| 53 233 00 | Tastatur (D) | Keyboard (D) | | F 6 |
| 53 234 00 | Tastatur (CH) | Keyboard (CH) | | F 6 |
| 53 235 00 | Tastatur (DK) | Keyboard (DK) | | F 6 |
| 53 236 00 | Tastatur (E) | Keyboard (E) | | F 6 |
| 53 237 00 | Tastatur (F) | Keyboard (F) | | F 6 |
| 53 238 00 | Tastatur (F) DUAL | Keyboard (F) DUAL | | F 6 |
| 53 239 00 | Tastatur (I) | Keyboard (I) | | F 6 |
| 53 240 00 | Tastatur (N) | Keyboard (N) | | F 6 |
| 53 241 00 | Tastatur (P) | Keyboard (P) | | F 6 |
| 53 242 00 | Tastatur (S/SF) | Keyboard (S/SF) | | F 6 |
| 53 243 00 | Tastatur (GR) | Keyboard (GR) | | F 6 |
| 53 244 00 | Tastatur (GB) | Keyboard (GB) | | F 6 |
| 53 245 00 | Tastatur (SU) | Keyboard (SU) | | F 6 |

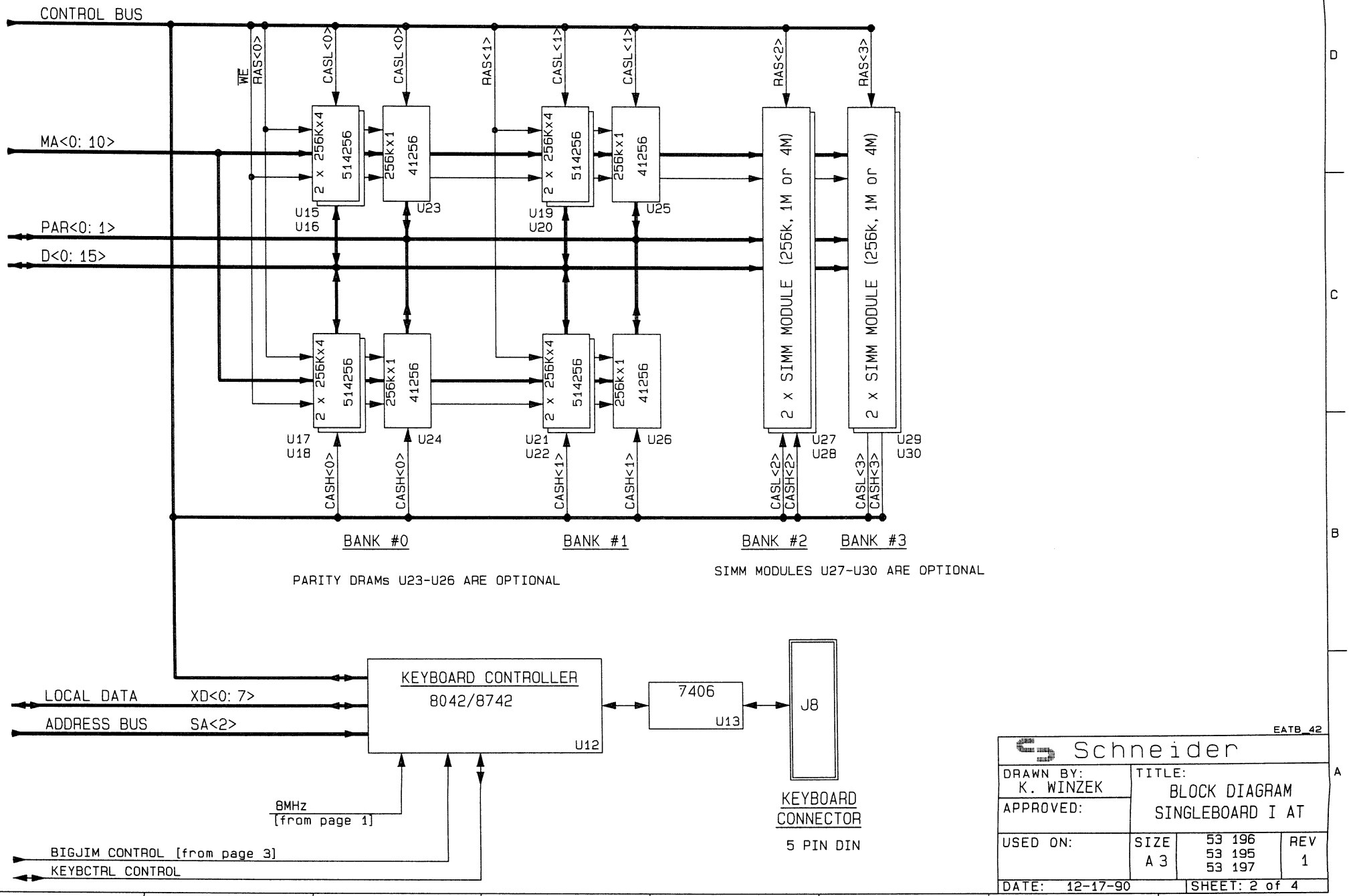
## Reparaturpauschale/Repair all-inclusive price

| | | | | |
|---|---|---|---|---|
| 53 195 00 | Platine CPU 16 MHz | P.C.B. CPU 16 MHz | 5 | G 1 |
| 53 457 00 | Platine CPU 20 MHz | P.C.B. CPU 20 MHz | 5 | G 1 |

**Note:** All spare parts with countryindex are reserved for foreign distributors only.

All 3.5" and 5.25" floppydisks must be replaced by new ones. Schneider passes no exchange price to the distributor or dealer.

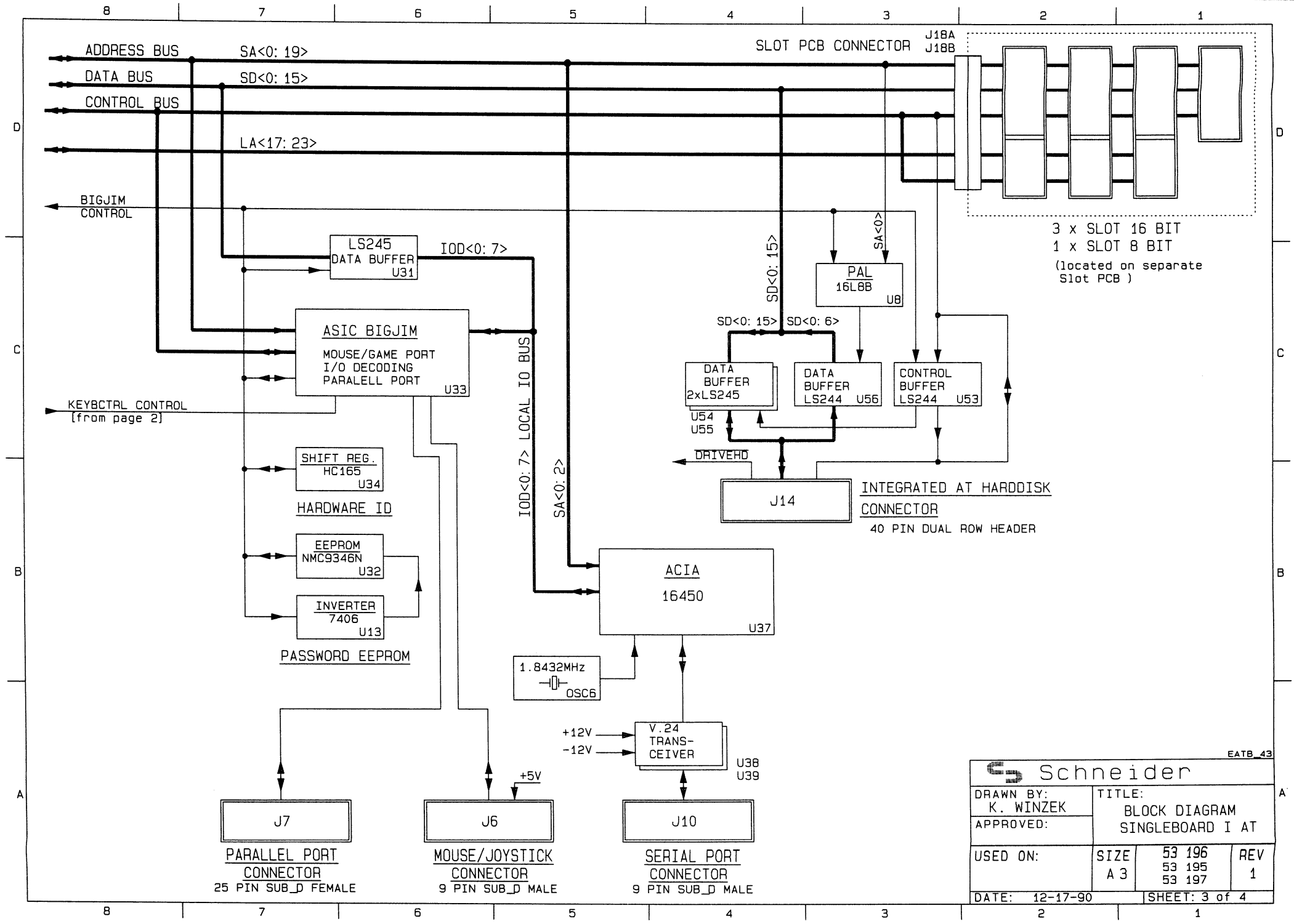

KEYBCTRL CONTROL
CPU
80286
U1
A<1: 23>
D<0: 15>
SYSTEM CONTROLLER
VL82C320
DRAM-Controller
EMS-Controller
U6
TCLK2
BUSOSC
PARITY DATA
PAR<0: 1>
SD<0: 15>
DATA BUS
SD<0: 19>
XD<0..7>
LOCAL DATA
XD<0: 7>
MA<0: 10>
MEMORY ADDRESS
MA<0: 10>
16MHz
[from page 1]
45MHz
[from page 4]
16 MHZ BUSOSC CLOCK ONLY
USED WITH DESKTOP SCH AT
AND DESTOP OEM I AT
14.318MHz
OSC3
F08
U3
14.318MHz
14.318MHz
DATA BUS
D<0: 15>
CONTROL BUS
NPU
80287
(OPTIONAL)
U2
BUS CONTROLLER
VL82C331
DMA, Interrupt-Controller,
Timer, Real Time Clock
U7
XD<0: 7>
ADDRESS
BUS
SA<0: 19>
SA<0: 19>
LA<17: 23>
LA<17: 23>
32.768KHz
Q1
PWRGOOD
[from page 4]
SA<0, 11, 14-16>
SA<1: 16>
D<0: 7>
D<8: 15>
40 MHZ TCLK2 CLOCK ONLY
USED WITH DESKTOP SCH AT
25 MHZ TCLK2 CLOCK ONLY
USED WITH DESKTOP OEM I AT
40/25MHz
OSC2
32.000MHz
OSC4
PAL
16L8B
U8
BIOS-L
27512
U9
BIOS-H
27512
U10
CHARSET MAPPING
SYSTEM & VGA BIOS
BUZZER
F126
U14/1
BIGJIM CONTROL
[from page 3]
DIVIDE : 2
ACT74
U11/2
DIVIDE : 2
ACT74
U11/1
8MHz
[to page 2]
16MHz
[to page 1, 4]
EATB_41
Schneider
DRAWN BY:
K. WINZEK
APPROVED:
TITLE:
BLOCK DIAGRAM
SINGLEBOARD I AT
USED ON:
SIZE
A 3
53 196
53 195
53 197
REV
1
DATE: 12-17-90
SHEET: 1 of 4

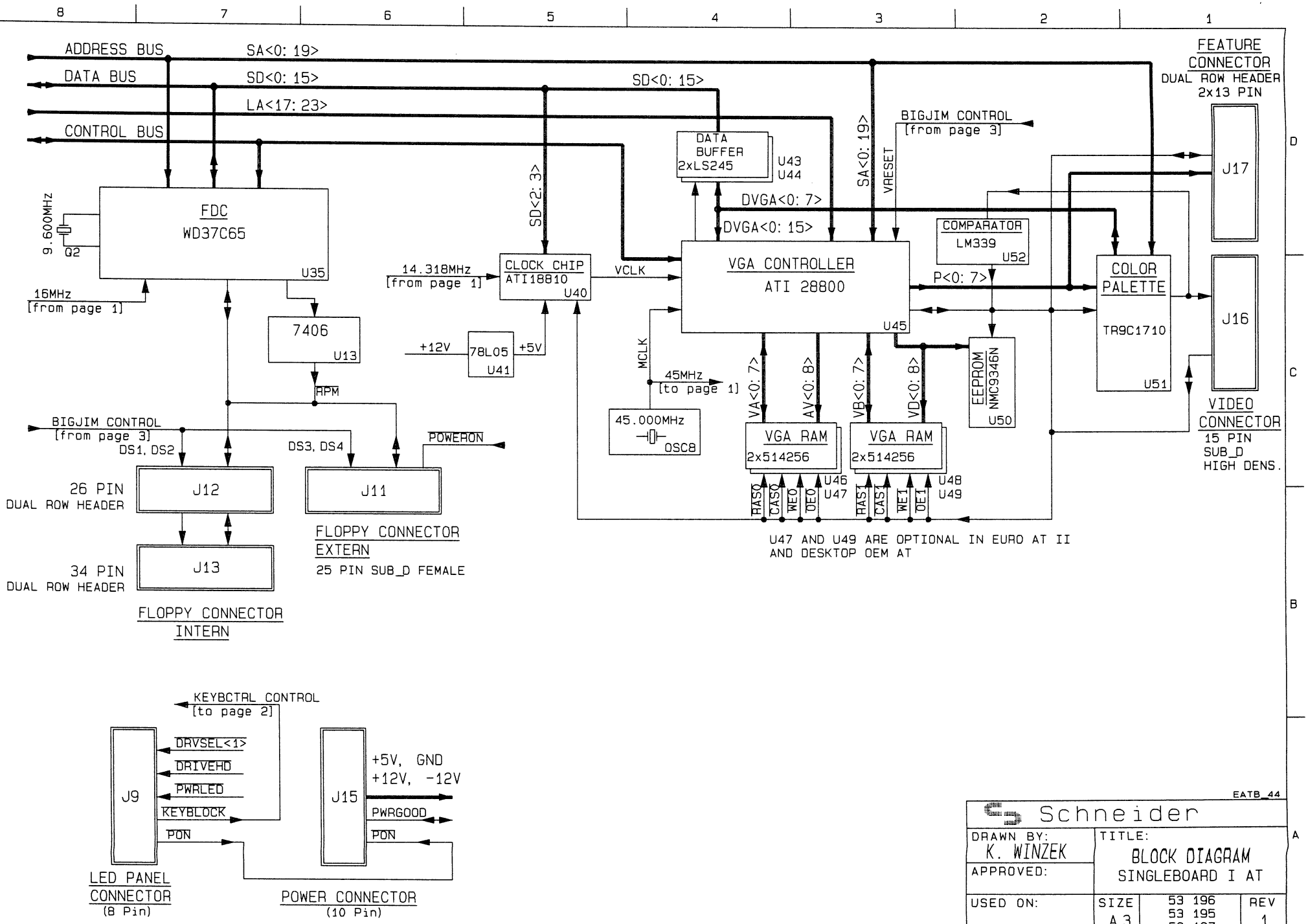



EATB_42

Schneider

| | | | |
|---|---|---|---|
| DRAWN BY: K. WINZEK | TITLE: BLOCK DIAGRAM SINGLEBOARD I AT | | |
| APPROVED: | | | |
| USED ON: | SIZE A 3 | 53 196<br>53 195<br>53 197 | REV 1 |
| DATE: 12-17-90 | SHEET: 2 of 4 | | |


ADDRESS BUS
SA<0: 19>
DATA BUS
SD<0: 15>
CONTROL BUS
LA<17: 23>
SLOT PCB CONNECTOR
J18A
J18B
3 x SLOT 16 BIT
1 x SLOT 8 BIT
(located on separate Slot PCB )
BIGJIM CONTROL
LS245 DATA BUFFER U31
IOD<0: 7>
SD<0: 15>
SA<0>
PAL 16L8B U8
ASIC BIGJIM
MOUSE/GAME PORT
I/O DECODING
PARALELL PORT
U33
SD<0: 15>
SD<0: 6>
DATA BUFFER 2xLS245
U54
U55
DATA BUFFER LS244 U56
CONTROL BUFFER LS244 U53
KEYBCTRL CONTROL
[from page 2]
DRIVEHD
J14
INTEGRATED AT HARDDISK CONNECTOR
40 PIN DUAL ROW HEADER
IOD<0: 7> LOCAL IO BUS
SA<0: 2>
SHIFT REG. HC165 U34
HARDWARE ID
EEPROM NMC9346N U32
INVERTER 7406 U13
PASSWORD EEPROM
ACIA 16450 U37
1.8432MHz
OSC6
+12V
-12V
V.24 TRANS-CEIVER
U38
U39
+5V
J7
J6
J10
PARALLEL PORT CONNECTOR
25 PIN SUB_D FEMALE
MOUSE/JOYSTICK CONNECTOR
9 PIN SUB_D MALE
SERIAL PORT CONNECTOR
9 PIN SUB_D MALE
EATB_43
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: BLOCK DIAGRAM SINGLEBOARD I AT
USED ON:
SIZE A 3
53 196
53 195
53 197
REV 1
DATE: 12-17-90
SHEET: 3 of 4

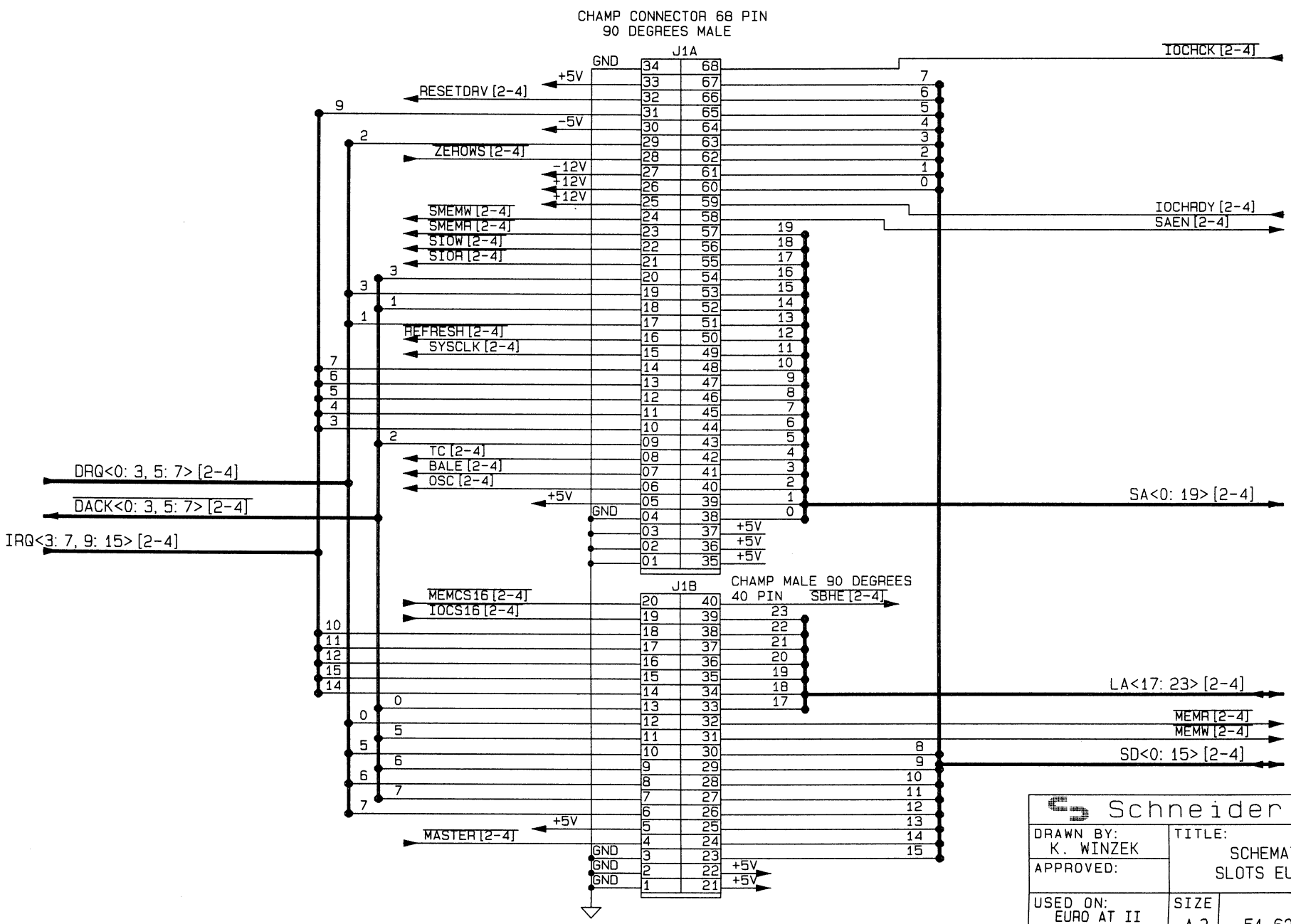



EATB_44

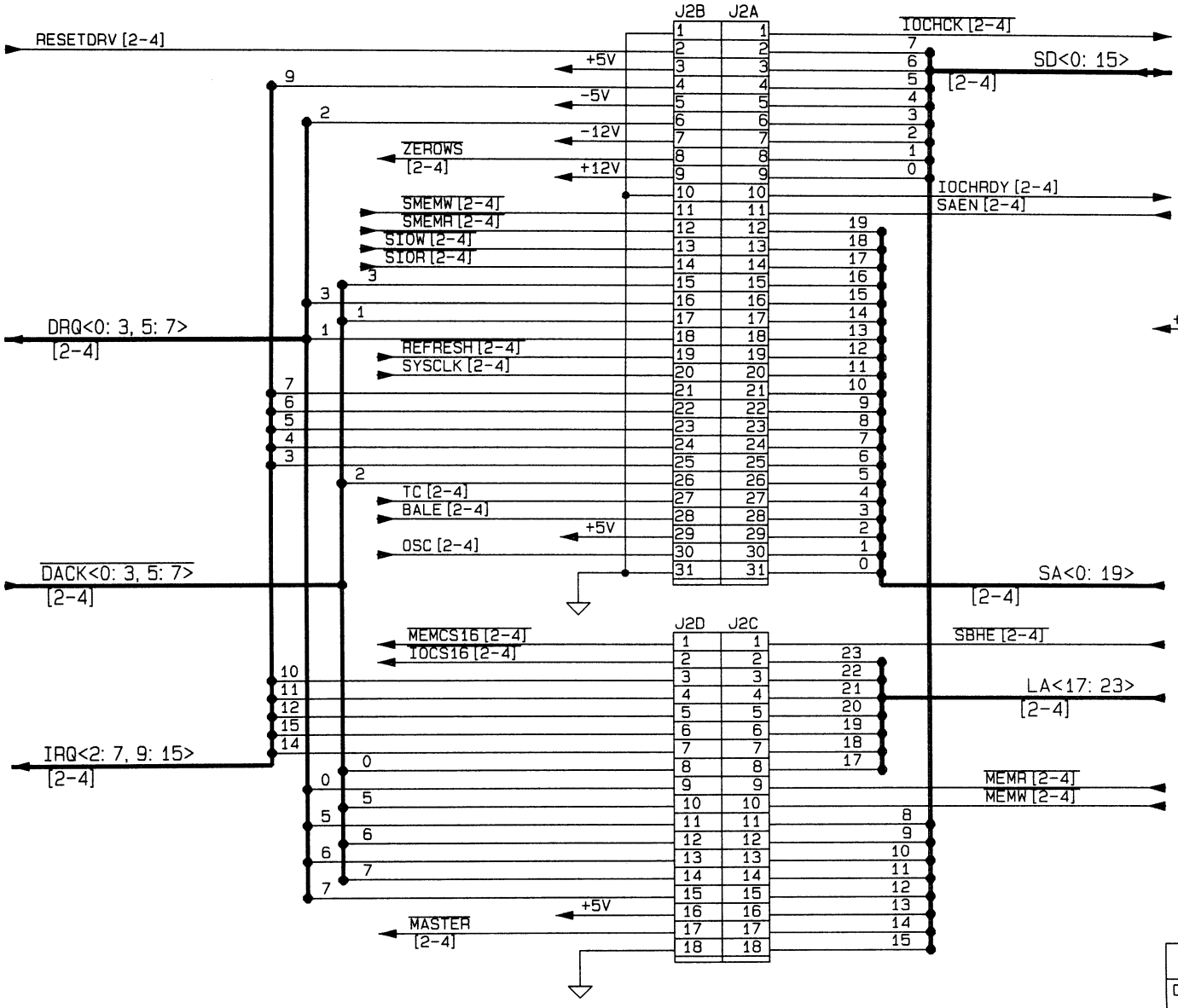
Schneider

| | | |
|---|---|---|
| DRAWN BY: K. WINZEK | TITLE: BLOCK DIAGRAM SINGLEBOARD I AT | |
| APPROVED: | | |
| USED ON: | SIZE A 3 | 53 196 53 195 53 197 / REV 1 |
| DATE: 12-14-90 | SHEET: 4 of 4 | |

# SLOT PCB CONNECTOR



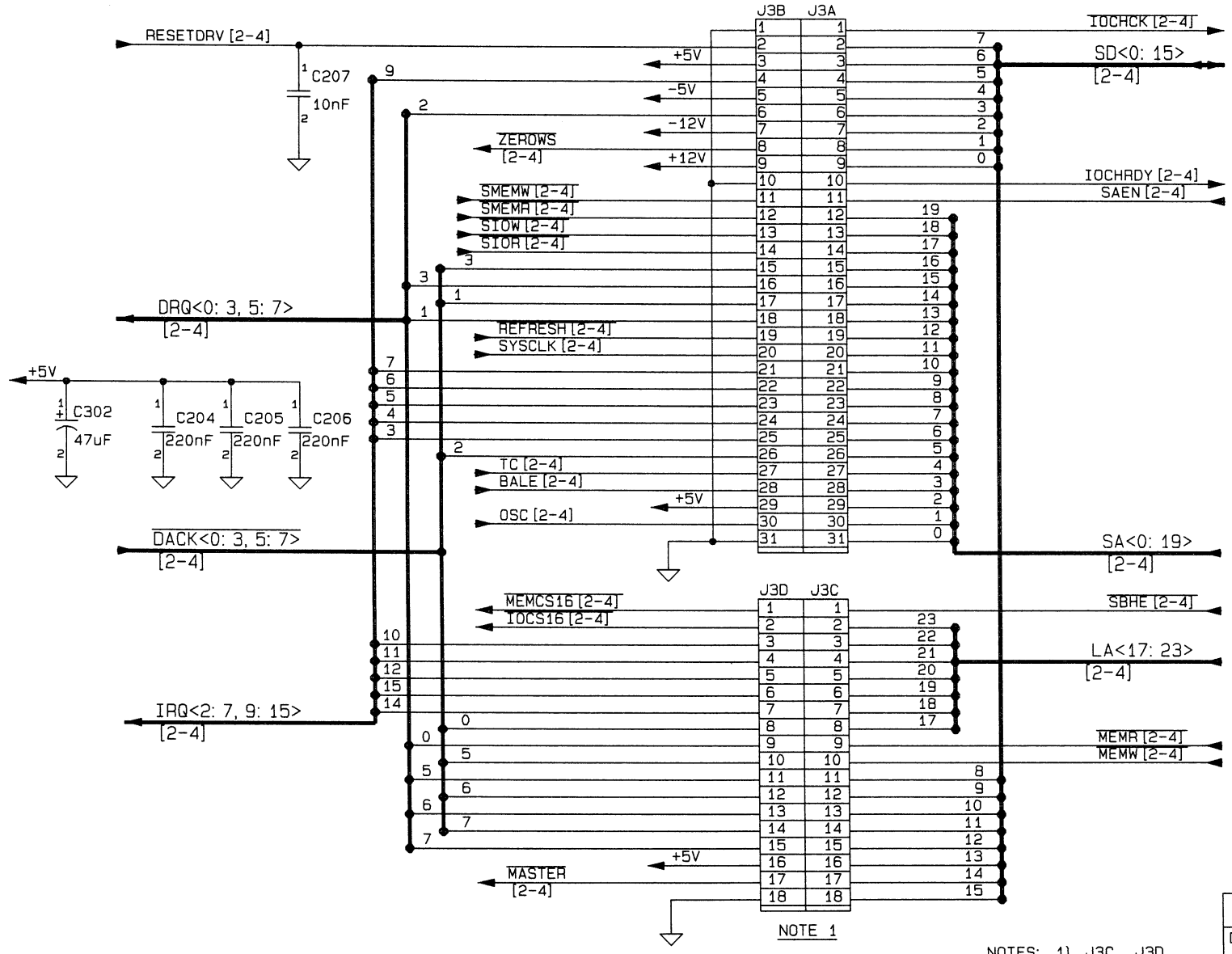

| | | | |
|---|---|---|---|
| Schneider | | | SLT_22 |
| DRAWN BY: K. WINZEK | TITLE: SCHEMATIC SLOTS EURO AT | | |
| APPROVED: | | | |
| USED ON: EURO AT II EURO SX | SIZE A 3 | 51 620 | REV 2 |
| DATE: 01-22-90 | SHEET: 2 of 4 | | |




SLOT I

SLT_23

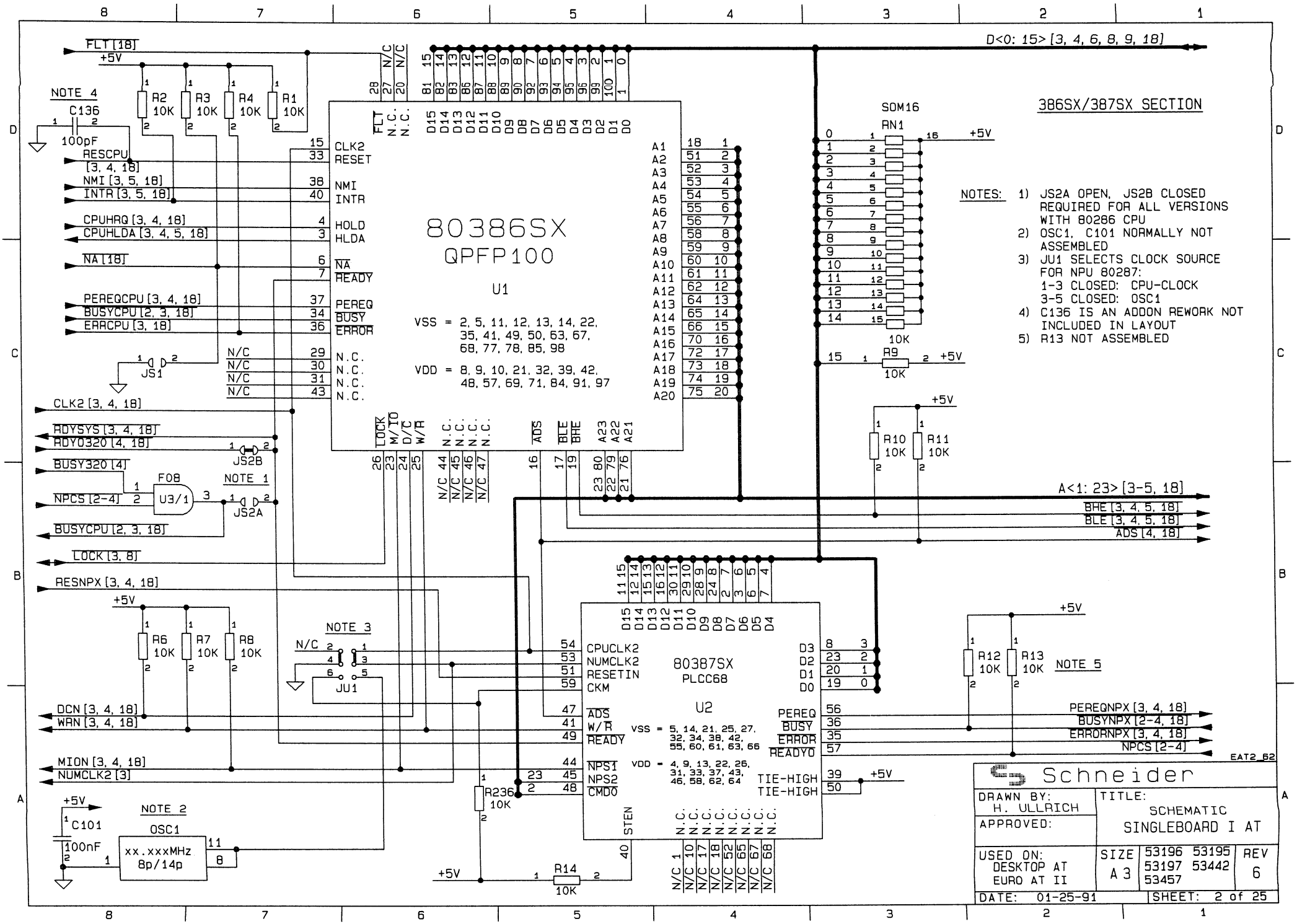
| | | | |
|---|---|---|---|
| Schneider | | | |
| DRAWN BY: K. WINZEK | TITLE: SCHEMATIC SLOTS EURO AT | | |
| APPROVED: | | | |
| USED ON: EURO AT II EURO SX | SIZE A 3 | 51 620 | REV 2 |
| DATE: 01-24-90 | SHEET: 3 of 4 | | |

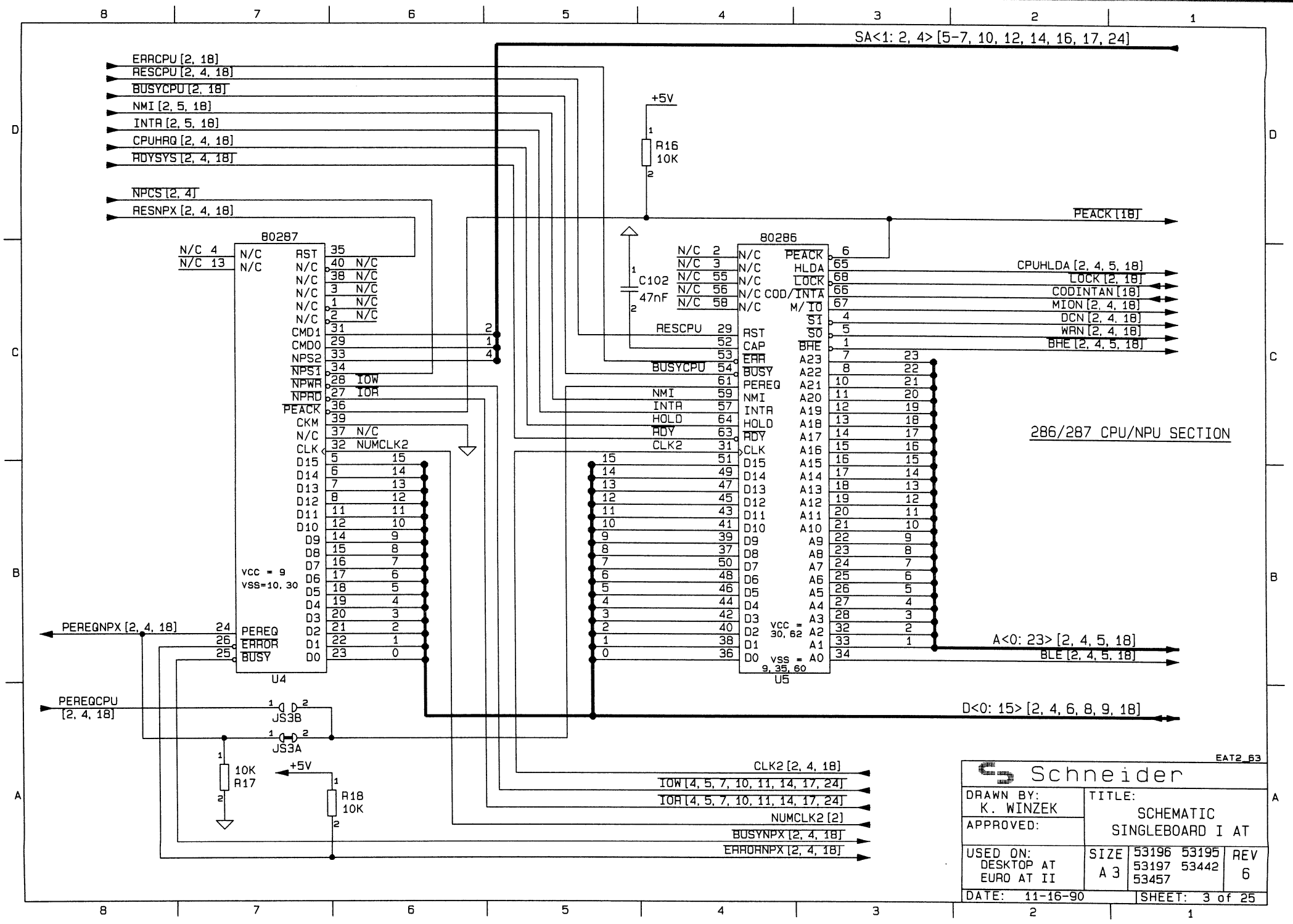


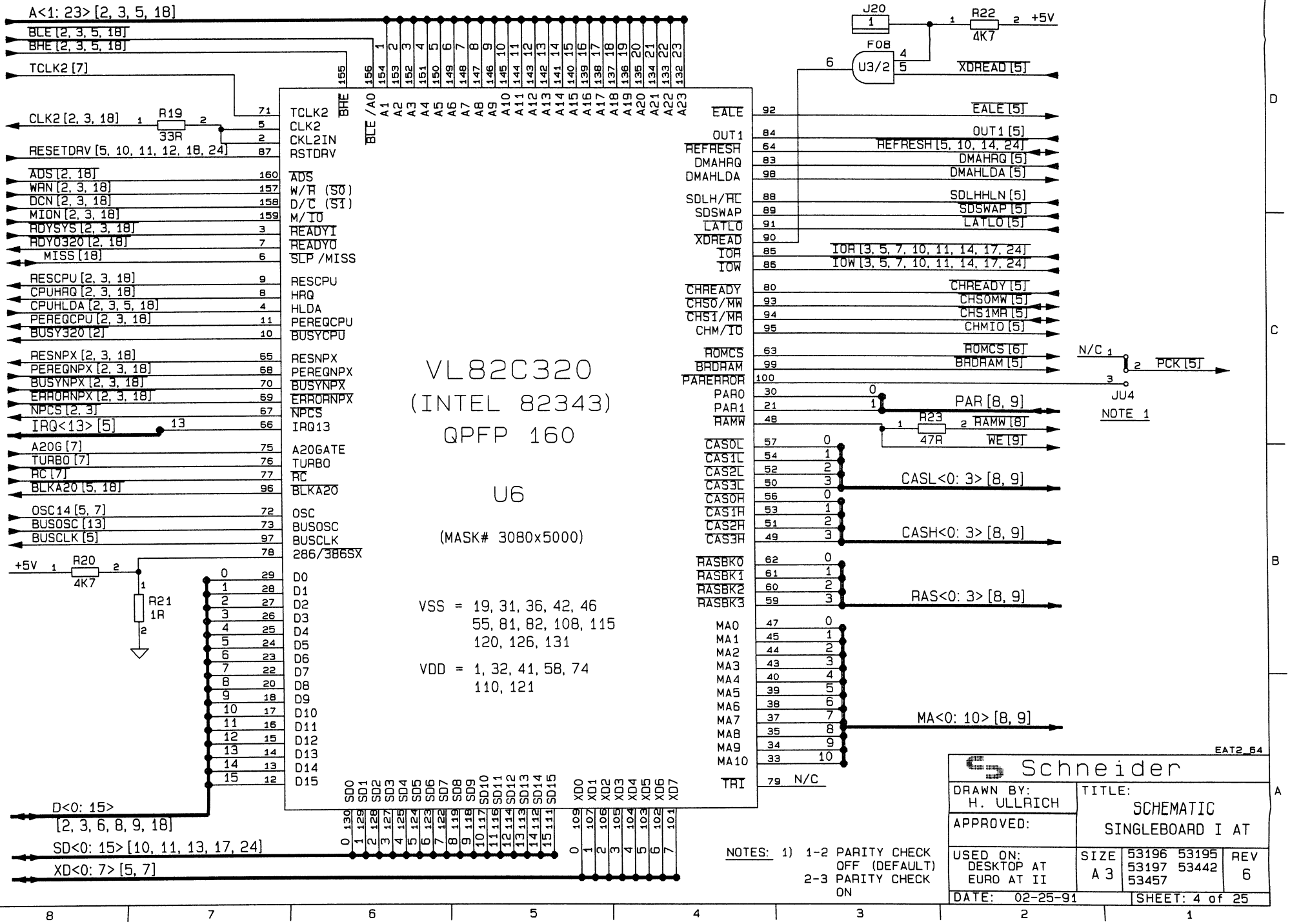

NOTES: 1) J3C, J3D NORMALLY NOT ASSEMBLED

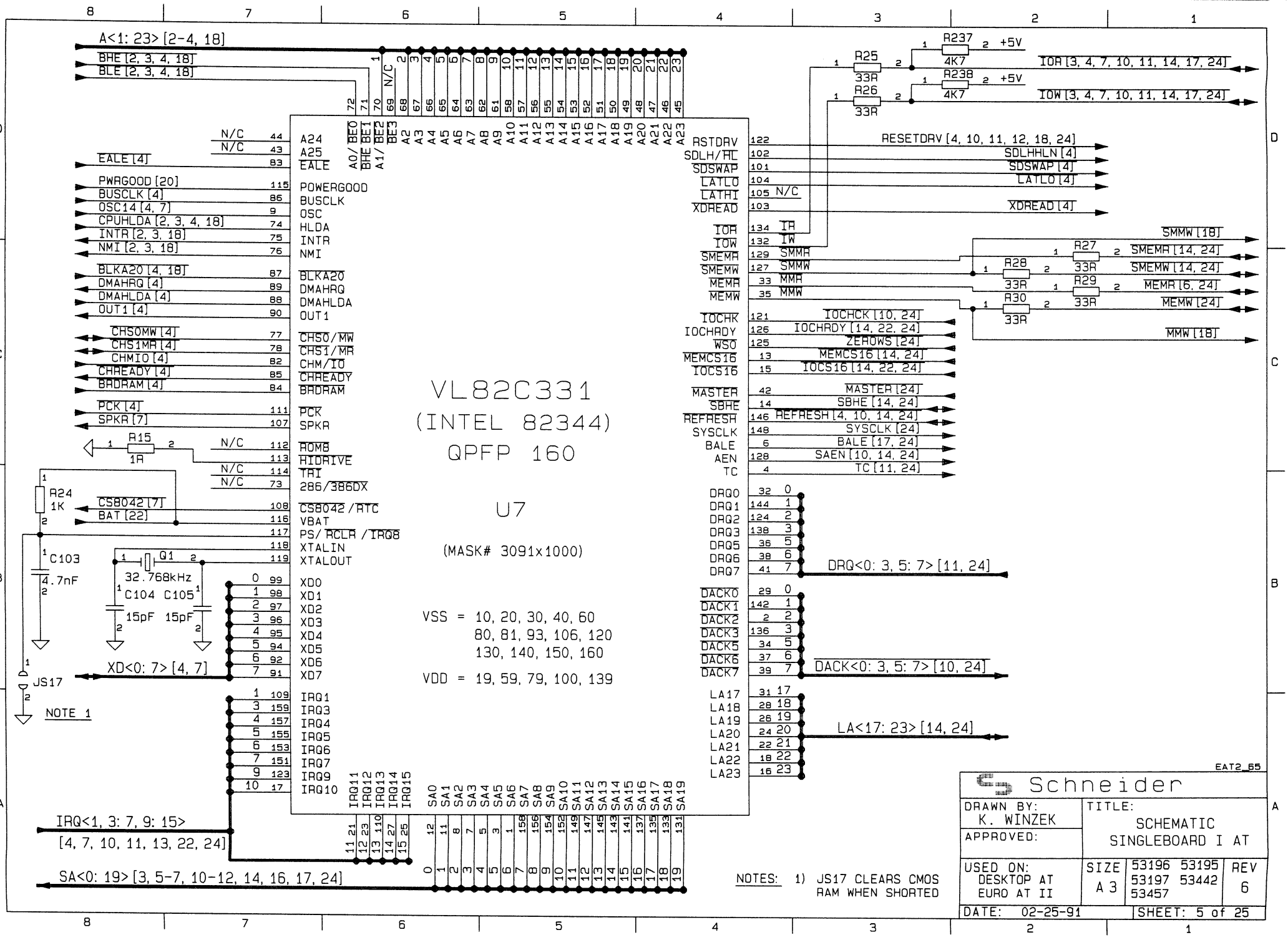
SLT_24

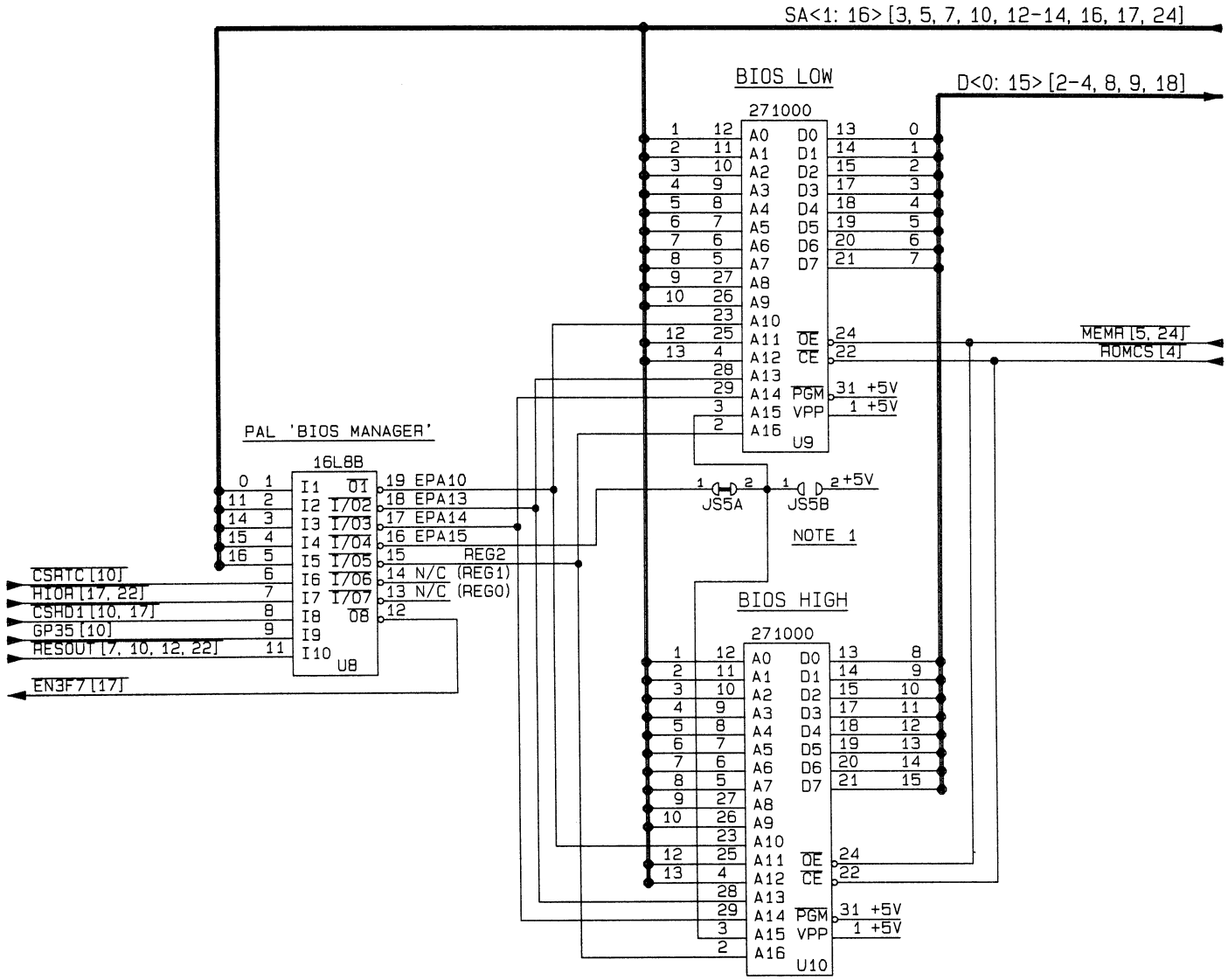
| | | | |
|---|---|---|---|
| Schneider | | | |
| DRAWN BY: K. WINZEK | TITLE: SCHEMATIC SLOTS EURO AT | | |
| APPROVED: | | | |
| USED ON: EURO AT II EURO SX | SIZE A 3 | 51 620 | REV 2 |
| DATE: 01-24-90 | SHEET: 4 of 4 | | |


386SX/387SX SECTION
80386SX
QPFP100
U1
VSS = 2, 5, 11, 12, 13, 14, 22, 35, 41, 49, 50, 63, 67, 68, 77, 78, 85, 98
VDD = 8, 9, 10, 21, 32, 39, 42, 48, 57, 69, 71, 84, 91, 97
80387SX
PLCC68
U2
VSS = 5, 14, 21, 25, 27, 32, 34, 38, 42, 55, 60, 61, 63, 66
VDD = 4, 9, 13, 22, 26, 31, 33, 37, 43, 46, 58, 62, 64
SOM16
RN1
NOTES:
1) JS2A OPEN, JS2B CLOSED REQUIRED FOR ALL VERSIONS WITH 80286 CPU
2) OSC1, C101 NORMALLY NOT ASSEMBLED
3) JU1 SELECTS CLOCK SOURCE FOR NPU 80287:
1-3 CLOSED: CPU-CLOCK
3-5 CLOSED: OSC1
4) C136 IS AN ADDON REWORK NOT INCLUDED IN LAYOUT
5) R13 NOT ASSEMBLED
D<0: 15> [3, 4, 6, 8, 9, 18]
A<1: 23> [3-5, 18]
BHE [3, 4, 5, 18]
BLE [3, 4, 5, 18]
ADS [4, 18]
FLT [18]
RESCPU [3, 4, 18]
NMI [3, 5, 18]
INTR [3, 5, 18]
CPUHRQ [3, 4, 18]
CPUHLDA [3, 4, 5, 18]
NA [18]
PEREQCPU [3, 4, 18]
BUSYCPU [2, 3, 18]
ERRCPU [3, 18]
CLK2 [3, 4, 18]
RDYSYS [3, 4, 18]
RDY0320 [4, 18]
BUSY320 [4]
NPCS [2-4]
BUSYCPU [2, 3, 18]
LOCK [3, 8]
RESNPX [3, 4, 18]
DCN [3, 4, 18]
WAN [3, 4, 18]
MION [3, 4, 18]
NUMCLK2 [3]
PEREQNPX [3, 4, 18]
BUSYNPX [2-4, 18]
ERRORNPX [3, 4, 18]
NPCS [2-4]
EAT2_62
Schneider
DRAWN BY: H. ULLRICH
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I AT
USED ON: DESKTOP AT EURO AT II
SIZE A 3
53196 53195 53197 53442 53457
REV 6
DATE: 01-25-91
SHEET: 2 of 25


SA<1: 2, 4> [5-7, 10, 12, 14, 16, 17, 24]
ERRCPU [2, 18]
RESCPU [2, 4, 18]
BUSYCPU [2, 18]
NMI [2, 5, 18]
INTR [2, 5, 18]
CPUHRQ [2, 4, 18]
RDYSYS [2, 4, 18]
NPCS [2, 4]
RESNPX [2, 4, 18]
+5V
R16
10K
PEACK [18]
80287
80286
C102
47nF
CPUHLDA [2, 4, 5, 18]
LOCK [2, 18]
CODINTAN [18]
MION [2, 4, 18]
DCN [2, 4, 18]
WRN [2, 4, 18]
BHE [2, 4, 5, 18]
286/287 CPU/NPU SECTION
A<0: 23> [2, 4, 5, 18]
BLE [2, 4, 5, 18]
D<0: 15> [2, 4, 6, 8, 9, 18]
PEREQNPX [2, 4, 18]
PEREQCPU [2, 4, 18]
JS3B
JS3A
10K
R17
+5V
R18
10K
CLK2 [2, 4, 18]
IOW [4, 5, 7, 10, 11, 14, 17, 24]
IOR [4, 5, 7, 10, 11, 14, 17, 24]
NUMCLK2 [2]
BUSYNPX [2, 4, 18]
ERRORNPX [2, 4, 18]
U4
U5
VCC = 9
VSS=10, 30
VCC = 30, 62
VSS = 9, 35, 60
EAT2_63
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I AT
USED ON: DESKTOP AT EURO AT II
SIZE A 3
53196 53195 53197 53442 53457
REV 6
DATE: 11-16-90
SHEET: 3 of 25


VL82C320
(INTEL 82343)
QPFP 160
U6
(MASK# 3080x5000)
VSS = 19, 31, 36, 42, 46
55, 81, 82, 108, 115
120, 126, 131
VDD = 1, 32, 41, 58, 74
110, 121
A<1: 23> [2, 3, 5, 18]
BLE [2, 3, 5, 18]
BHE [2, 3, 5, 18]
TCLK2 [7]
CLK2 [2, 3, 18]
R19
33R
RESETDRV [5, 10, 11, 12, 18, 24]
ADS [2, 18]
WAN [2, 3, 18]
DCN [2, 3, 18]
MION [2, 3, 18]
RDYSYS [2, 3, 18]
RDY0320 [2, 18]
MISS [18]
RESCPU [2, 3, 18]
CPUHRQ [2, 3, 18]
CPUHLDA [2, 3, 5, 18]
PEREQCPU [2, 3, 18]
BUSY320 [2]
RESNPX [2, 3, 18]
PEREQNPX [2, 3, 18]
BUSYNPX [2, 3, 18]
ERRORNPX [2, 3, 18]
NPCS [2, 3]
IRQ<13> [5]
A20G [7]
TURBO [7]
RC [7]
BLKA20 [5, 18]
OSC14 [5, 7]
BUSOSC [13]
BUSCLK [5]
+5V
R20
4K7
R21
1R
D<0: 15>
[2, 3, 6, 8, 9, 18]
SD<0: 15> [10, 11, 13, 17, 24]
XD<0: 7> [5, 7]
J20
R22
4K7
+5V
F08
U3/2
XDREAD [5]
EALE [5]
OUT1 [5]
REFRESH [5, 10, 14, 24]
DMAHRQ [5]
DMAHLDA [5]
SDLHHLN [5]
SDSWAP [5]
LATLO [5]
IOR [3, 5, 7, 10, 11, 14, 17, 24]
IOW [3, 5, 7, 10, 11, 14, 17, 24]
CHREADY [5]
CHS0MW [5]
CHS1MR [5]
CHMIO [5]
ROMCS [6]
BRDRAM [5]
N/C
PCK [5]
JU4
NOTE 1
PAR [8, 9]
R23
47R
RAMW [8]
WE [9]
CASL<0: 3> [8, 9]
CASH<0: 3> [8, 9]
RAS<0: 3> [8, 9]
MA<0: 10> [8, 9]
N/C
NOTES: 1) 1-2 PARITY CHECK OFF (DEFAULT)
2-3 PARITY CHECK ON
EAT2_64
Schneider
DRAWN BY: H. ULLRICH
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I AT
USED ON: DESKTOP AT EURO AT II
SIZE A 3
53196 53195 53197 53442 53457
REV 6
DATE: 02-25-91
SHEET: 4 of 25


A<1: 23> [2-4, 18]
BHE [2, 3, 4, 18]
BLE [2, 3, 4, 18]
EALE [4]
PWRGOOD [20]
BUSCLK [4]
OSC14 [4, 7]
CPUHLDA [2, 3, 4, 18]
INTR [2, 3, 18]
NMI [2, 3, 18]
BLKA20 [4, 18]
DMAHRQ [4]
DMAHLDA [4]
OUT1 [4]
CHS0MW [4]
CHS1MR [4]
CHMIO [4]
CHREADY [4]
BADRAM [4]
PCK [4]
SPKR [7]
CS8042 [7]
BAT [22]
XD<0: 7> [4, 7]
IRQ<1, 3: 7, 9: 15>
[4, 7, 10, 11, 13, 22, 24]
SA<0: 19> [3, 5-7, 10-12, 14, 16, 17, 24]
VL82C331
(INTEL 82344)
QPFP 160
U7
(MASK# 3091x1000)
VSS = 10, 20, 30, 40, 60
80, 81, 93, 106, 120
130, 140, 150, 160
VDD = 19, 59, 79, 100, 139
R15 1R
R24 1K
C103 4.7nF
Q1 32.768kHz
C104 C105 15pF 15pF
JS17
NOTE 1
R237 4K7 +5V
R25 33R
R238 4K7 +5V
R26 33R
IOR [3, 4, 7, 10, 11, 14, 17, 24]
IOW [3, 4, 7, 10, 11, 14, 17, 24]
RESETDRV [4, 10, 11, 12, 18, 24]
SDLHHLN [4]
SDSWAP [4]
LATLO [4]
XDREAD [4]
SMMW [18]
R27 33R
R28 33R
R29 33R
R30 33R
SMEMR [14, 24]
SMEMW [14, 24]
MEMR [6, 24]
MEMW [24]
MMW [18]
IOCHCK [10, 24]
IOCHRDY [14, 22, 24]
ZEROWS [24]
MEMCS16 [14, 24]
IOCS16 [14, 22, 24]
MASTER [24]
SBHE [14, 24]
REFRESH [4, 10, 14, 24]
SYSCLK [24]
BALE [17, 24]
SAEN [10, 14, 24]
TC [11, 24]
DRQ<0: 3, 5: 7> [11, 24]
DACK<0: 3, 5: 7> [10, 24]
LA<17: 23> [14, 24]
EAT2_65
NOTES: 1) JS17 CLEARS CMOS RAM WHEN SHORTED
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I AT
USED ON: DESKTOP AT EURO AT II
SIZE A 3
53196 53195 53197 53442 53457
REV 6
DATE: 02-25-91
SHEET: 5 of 25
16

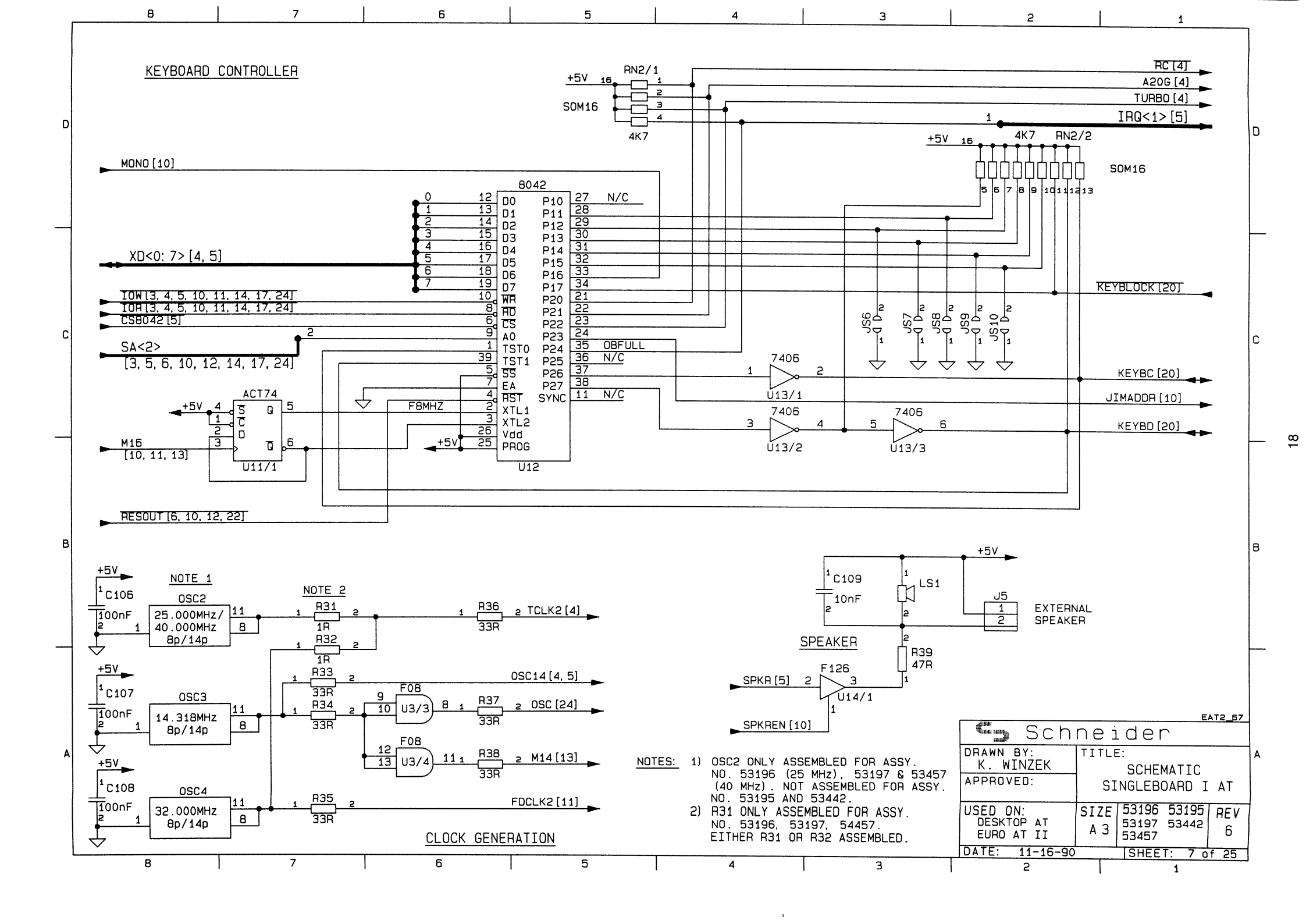


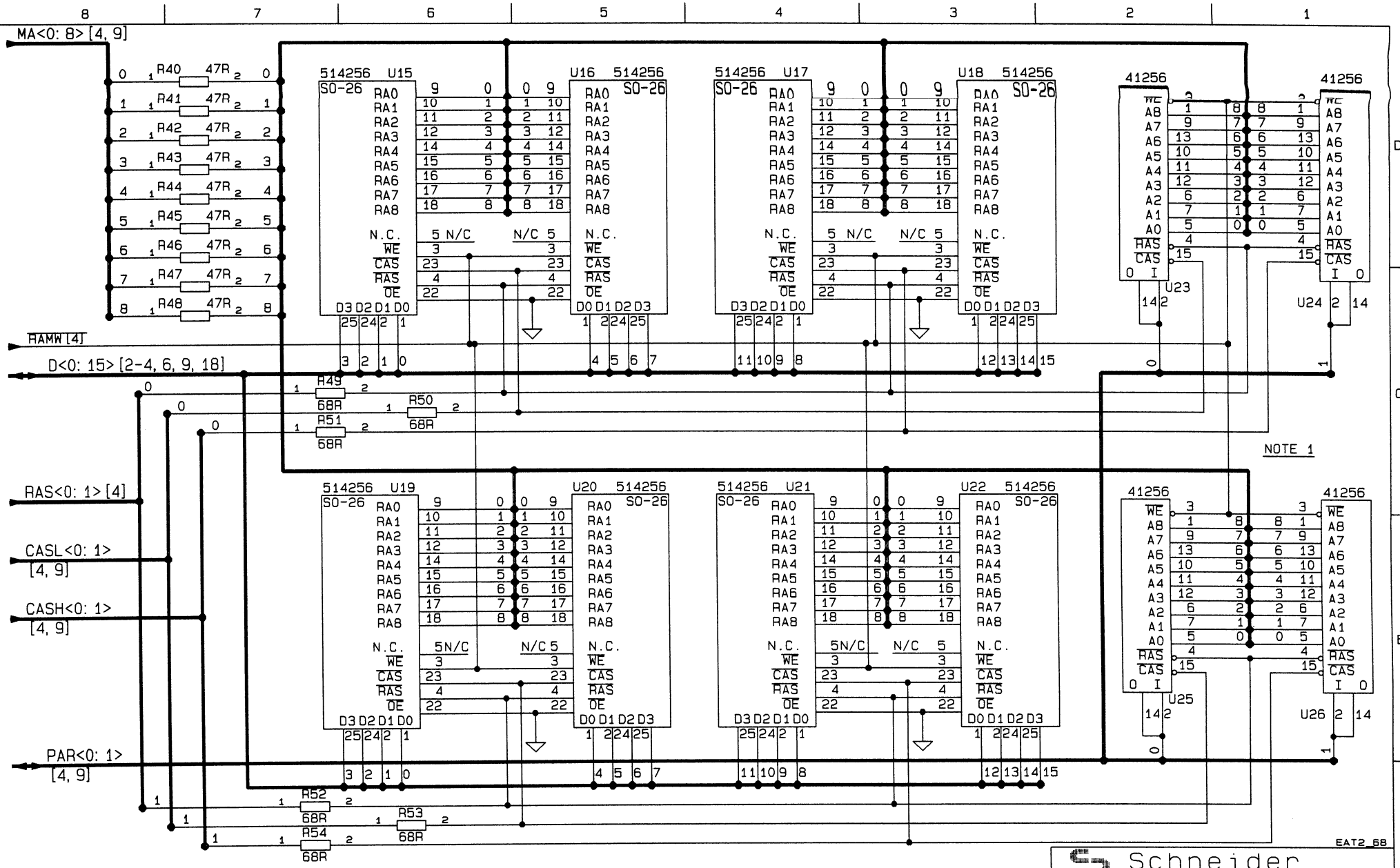

NOTES: 1) 1MBit BIOS: JS5A CLOSED
JS5B OPEN
512KBit BIOS: JS5A CLOSED
JS5B OPEN
256KBit BIOS: JS5A OPEN
JS5B CLOSED

EAT2_66

Schneider

| | | |
|---|---|---|
| DRAWN BY: K. WINZEK | TITLE: SCHEMATIC SINGLEBOARD I AT | |
| APPROVED: | | |
| USED ON: DESKTOP AT EURO AT II | SIZE A 3 | 53196 53195 53197 53442 53457 — REV 6 |
| DATE: 11-16-90 | SHEET: 6 of 25 | |

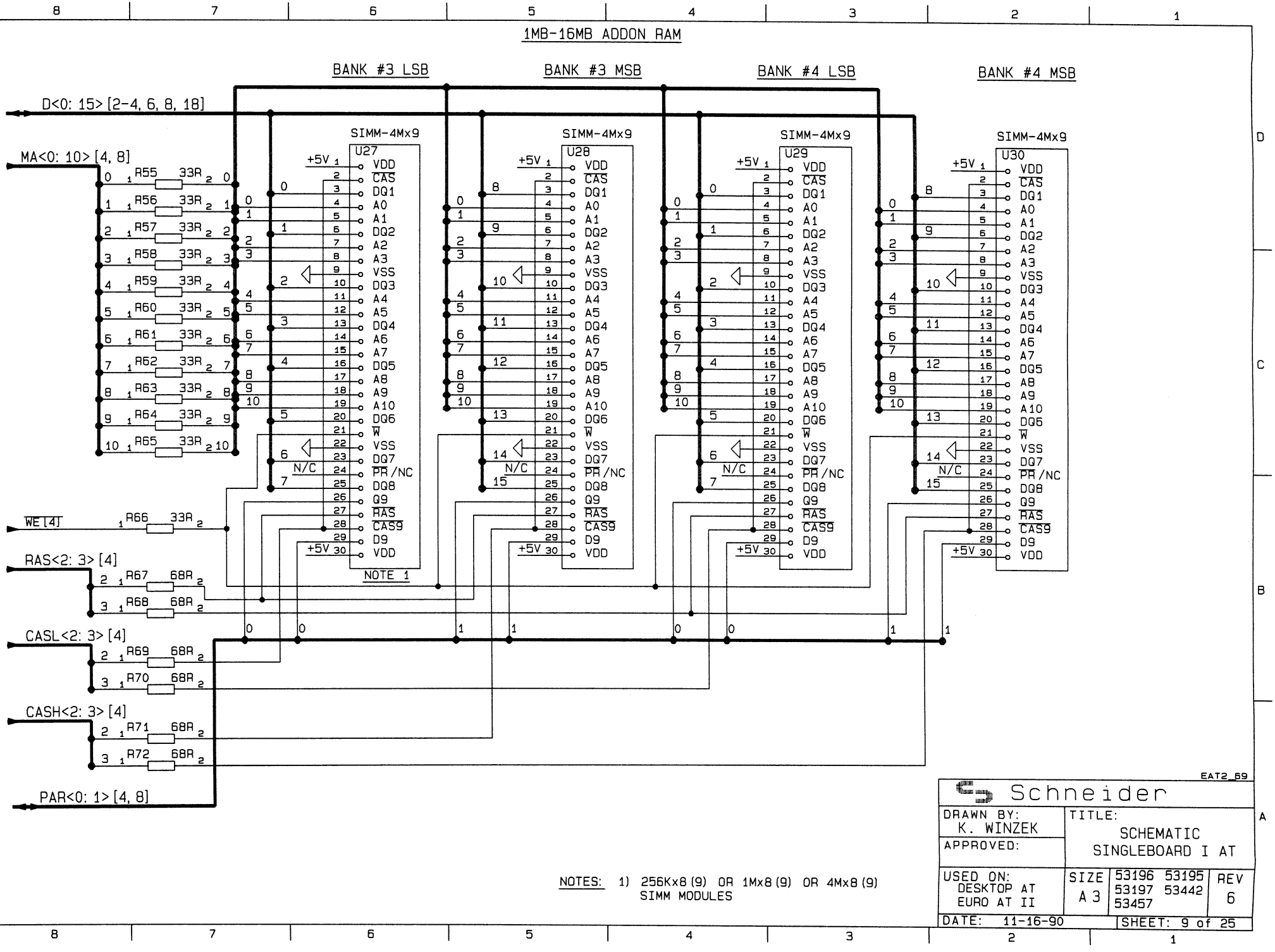

KEYBOARD CONTROLLER
RN2/1
+5V
SOM16
4K7
RC [4]
A20G [4]
TURBO [4]
IRQ<1> [5]
RN2/2
MONO [10]
8042
XD<0: 7> [4, 5]
IOW [3, 4, 5, 10, 11, 14, 17, 24]
IOR [3, 4, 5, 10, 11, 14, 17, 24]
CS8042 [5]
SA<2>
[3, 5, 6, 10, 12, 14, 17, 24]
D0
D1
D2
D3
D4
D5
D6
D7
WR
RD
CS
A0
TST0
TST1
SS
EA
RST
XTL1
XTL2
Vdd
PROG
P10
P11
P12
P13
P14
P15
P16
P17
P20
P21
P22
P23
P24
P25
P26
P27
SYNC
N/C
OBFULL
KEYBLOCK [20]
JS6
JS7
JS8
JS9
JS10
7406
U13/1
U13/2
U13/3
KEYBC [20]
JIMADDR [10]
KEYBD [20]
ACT74
U11/1
M16
[10, 11, 13]
F8MHZ
U12
RESOUT [6, 10, 12, 22]
NOTE 1
NOTE 2
OSC2
25.000MHz/
40.000MHz
8p/14p
C106
100nF
R31
1R
R32
1R
R36
33R
TCLK2 [4]
OSC3
14.318MHz
8p/14p
C107
R33
33R
R34
33R
F08
U3/3
R37
33R
OSC14 [4, 5]
OSC [24]
OSC4
32.000MHz
8p/14p
C108
F08
U3/4
R38
33R
M14 [13]
R35
33R
FDCLK2 [11]
CLOCK GENERATION
C109
10nF
LS1
J5
EXTERNAL
SPEAKER
SPEAKER
R39
47R
F126
U14/1
SPKR [5]
SPKREN [10]
NOTES: 1) OSC2 ONLY ASSEMBLED FOR ASSY. NO. 53196 (25 MHz), 53197 & 53457 (40 MHz). NOT ASSEMBLED FOR ASSY. NO. 53195 AND 53442.
2) R31 ONLY ASSEMBLED FOR ASSY. NO. 53196, 53197, 54457. EITHER R31 OR R32 ASSEMBLED.
EAT2_67
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I AT
USED ON: DESKTOP AT EURO AT II
SIZE A 3
53196 53195 53197 53442 53457
REV 6
DATE: 11-16-90
SHEET: 7 of 25

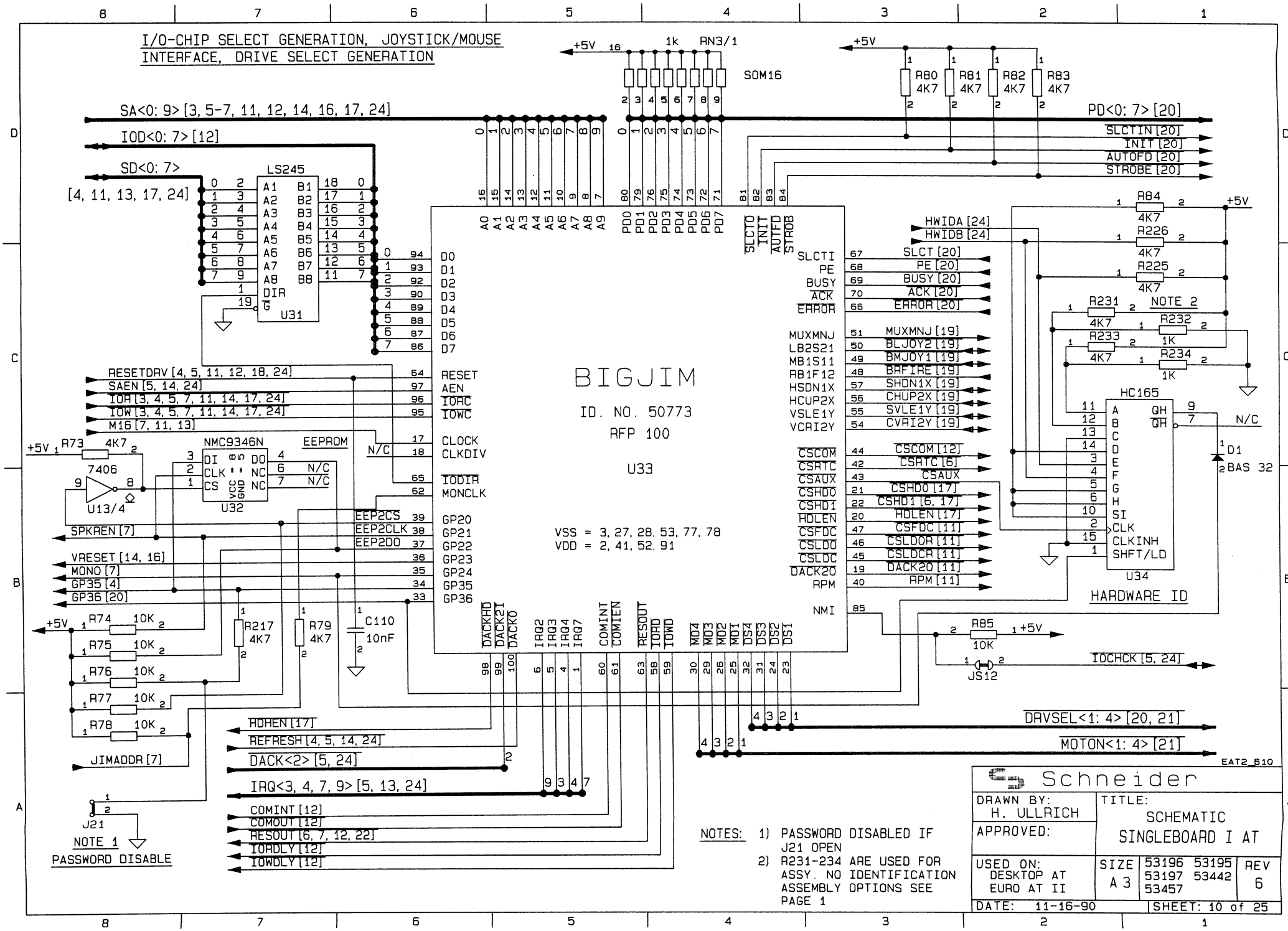


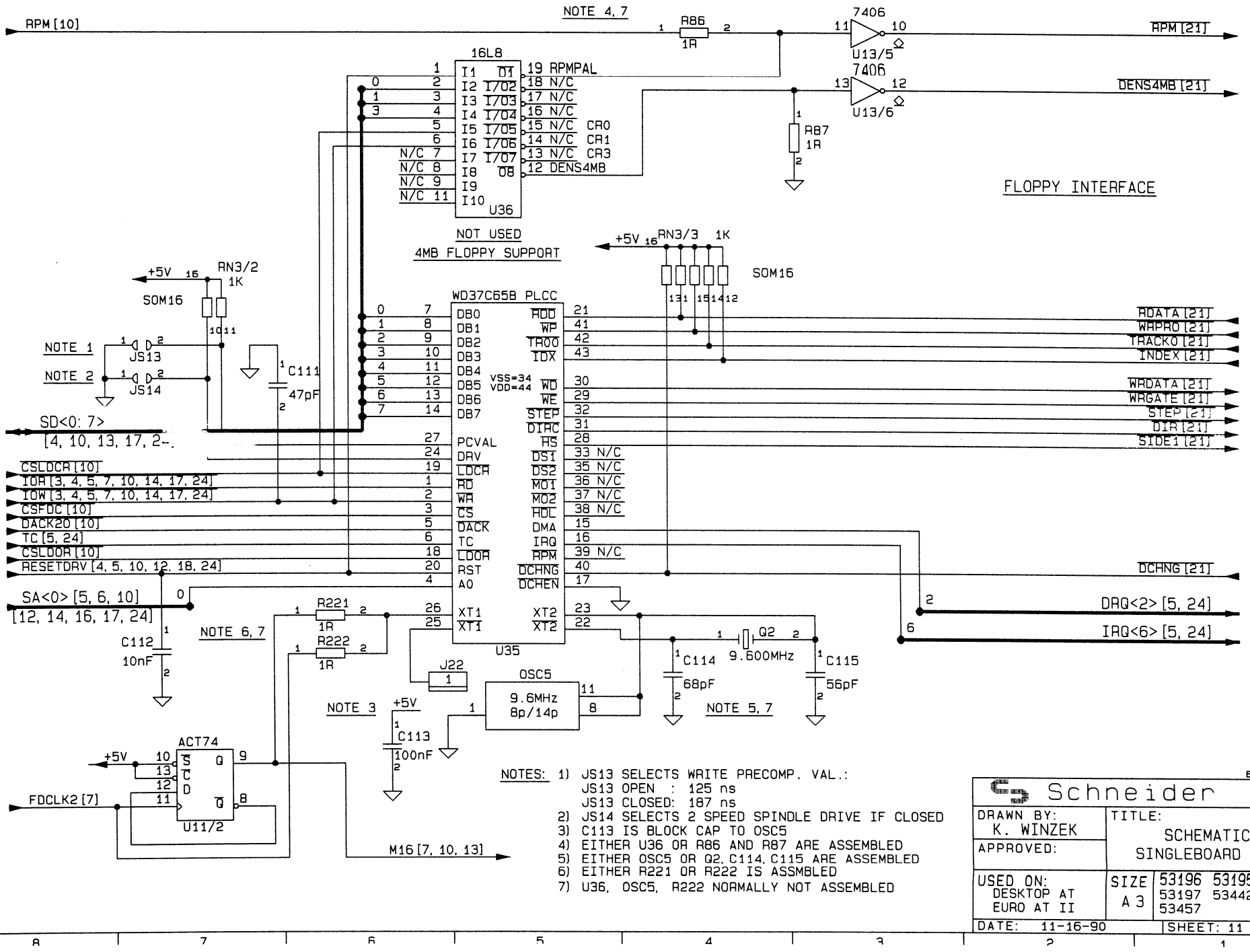

NOTES: 1) U23 .. U26 NORMALLY NOT ASSEMBLED

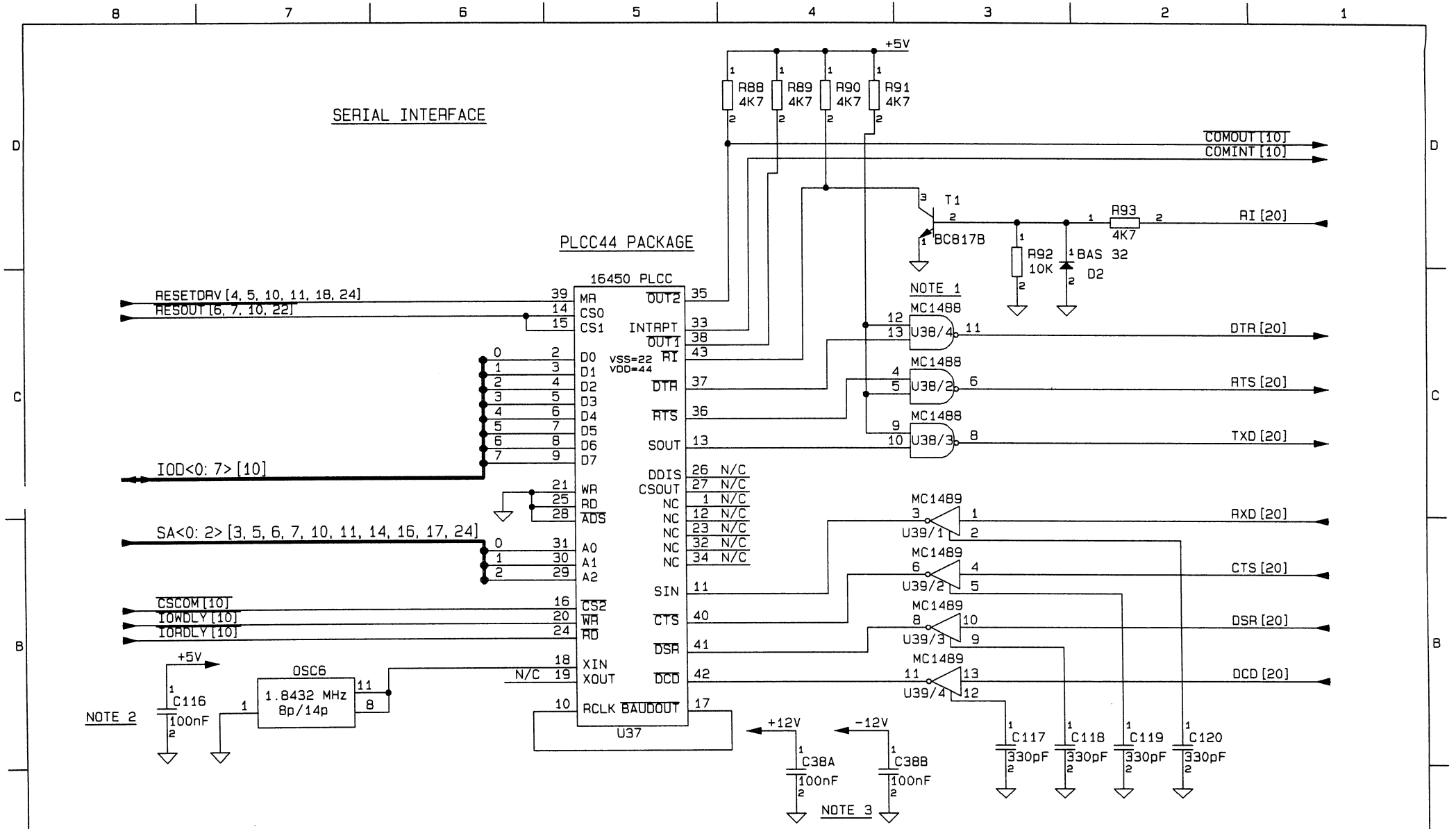
1 MB RAM

| | | | |
|---|---|---|---|
| Schneider | | | |
| DRAWN BY: H. ULLRICH | TITLE: SCHEMATIC SINGLEBOARD I AT | | |
| APPROVED: | | | |
| USED ON: DESKTOP AT EURO AT II | SIZE A 3 | 53196 53195 53197 53442 53457 | REV 6 |
| DATE: 11-26-90 | | SHEET: 8 of 25 | |


1MB-16MB ADDON RAM
BANK #3 LSB
BANK #3 MSB
BANK #4 LSB
BANK #4 MSB
D<0: 15> [2-4, 6, 8, 18]
MA<0: 10> [4, 8]
WE[4]
RAS<2: 3> [4]
CASL<2: 3> [4]
CASH<2: 3> [4]
PAR<0: 1> [4, 8]
R55 33R
R56 33R
R57 33R
R58 33R
R59 33R
R60 33R
R61 33R
R62 33R
R63 33R
R64 33R
R65 33R
R66 33R
R67 68R
R68 68R
R69 68R
R70 68R
R71 68R
R72 68R
SIMM-4Mx9
U27
U28
U29
U30
VDD
CAS
DQ1
A0
A1
DQ2
A2
A3
VSS
DQ3
A4
A5
DQ4
A6
A7
DQ5
A8
A9
A10
DQ6
W
VSS
DQ7
PR/NC
DQ8
Q9
RAS
CAS9
D9
VDD
+5V
N/C
NOTE 1
NOTES: 1) 256Kx8 (9) OR 1Mx8 (9) OR 4Mx8 (9) SIMM MODULES
EAT2_69
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I AT
USED ON: DESKTOP AT EURO AT II
SIZE A 3
53196 53195 53197 53442 53457
REV 6
DATE: 11-16-90
SHEET: 9 of 25


I/O-CHIP SELECT GENERATION, JOYSTICK/MOUSE INTERFACE, DRIVE SELECT GENERATION
SA<0: 9> [3, 5-7, 11, 12, 14, 16, 17, 24]
IOD<0: 7> [12]
SD<0: 7>
[4, 11, 13, 17, 24]
LS245
U31
SOM16
RN3/1
1k
+5V
R80 4K7
R81 4K7
R82 4K7
R83 4K7
PD<0: 7> [20]
SLCTIN [20]
INIT [20]
AUTOFD [20]
STROBE [20]
BIGJIM
ID. NO. 50773
RFP 100
U33
VSS = 3, 27, 28, 53, 77, 78
VDD = 2, 41, 52, 91
RESETDRV [4, 5, 11, 12, 18, 24]
SAEN [5, 14, 24]
IOR [3, 4, 5, 7, 11, 14, 17, 24]
IOW [3, 4, 5, 7, 11, 14, 17, 24]
M16 [7, 11, 13]
RESET
AEN
IORC
IOWC
CLOCK
CLKDIV
IODIR
MONCLK
GP20
GP21
GP22
GP23
GP24
GP35
GP36
EEP2CS
EEP2CLK
EEP2DO
NMC9346N
EEPROM
U32
7406
U13/4
R73 4K7
SPKREN [7]
VRESET [14, 16]
MONO [7]
GP35 [4]
GP36 [20]
R74 10K
R75 10K
R76 10K
R77 10K
R78 10K
R217 4K7
R79 4K7
C110 10nF
JIMADDR [7]
J21
NOTE 1
PASSWORD DISABLE
HDHEN [17]
REFRESH [4, 5, 14, 24]
DACK<2> [5, 24]
IRQ<3, 4, 7, 9> [5, 13, 24]
COMINT [12]
COMOUT [12]
RESOUT [6, 7, 12, 22]
IORDLY [12]
IOWDLY [12]
HWIDA [24]
HWIDB [24]
SLCT [20]
PE [20]
BUSY [20]
ACK [20]
ERROR [20]
MUXMNJ [19]
BLJOY2 [19]
BMJOY1 [19]
BAFIRE [19]
SHDN1X [19]
CHUP2X [19]
SVLE1Y [19]
CVRI2Y [19]
CSCOM [12]
CSATC [6]
CSAUX
CSHD0 [17]
CSHD1 [6, 17]
HDLEN [17]
CSFDC [11]
CSLDOR [11]
CSLDCR [11]
DACK20 [11]
RPM [11]
NMI
R84 4K7
R226 4K7
R225 4K7
R231 4K7
NOTE 2
R232 1K
R233 4K7
R234 1K
HC165
U34
HARDWARE ID
D1 BAS 32
N/C
R85 10K
JS12
IOCHCK [5, 24]
DRVSEL<1: 4> [20, 21]
MOTON<1: 4> [21]
EAT2_B10
NOTES: 1) PASSWORD DISABLED IF J21 OPEN
2) R231-234 ARE USED FOR ASSY. NO IDENTIFICATION ASSEMBLY OPTIONS SEE PAGE 1
Schneider
DRAWN BY: H. ULLRICH
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I AT
USED ON: DESKTOP AT EURO AT II
SIZE A 3
53196 53195 53197 53442 53457
REV 6
DATE: 11-16-90
SHEET: 10 of 25

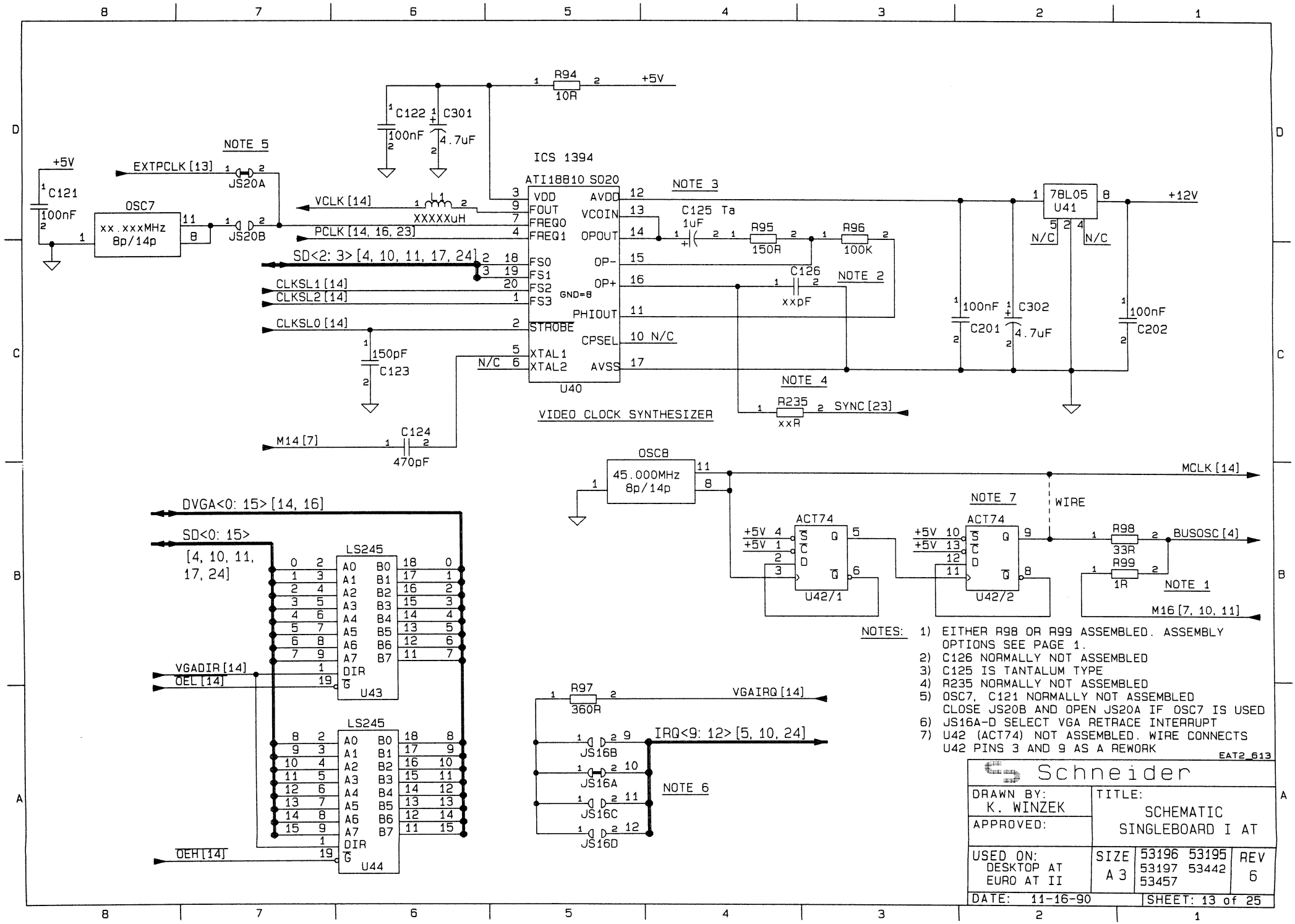

FLOPPY INTERFACE
RPM[10]
NOTE 4, 7
R86
1R
7406
U13/5
RPM[21]
DENS4MB[21]
U13/6
R87
1R
16L8
19 RPMPAL
18 N/C
17 N/C
16 N/C
15 N/C CR0
14 N/C CR1
13 N/C CR3
12 DENS4MB
U36
NOT USED
4MB FLOPPY SUPPORT
+5V
RN3/2
1K
SOM16
RN3/3
NOTE 1
NOTE 2
JS13
JS14
C111
47pF
SD<0:7>
[4, 10, 13, 17, 2-
WD37C65B PLCC
VSS=34
VDD=44
RDATA[21]
WRPRO[21]
TRACK0[21]
INDEX[21]
WRDATA[21]
WRGATE[21]
STEP[21]
DIR[21]
SIDE1[21]
DCHNG[21]
CSLDCR[10]
IOR[3, 4, 5, 7, 10, 14, 17, 24]
IOW[3, 4, 5, 7, 10, 14, 17, 24]
CSFDC[10]
DACK2D[10]
TC[5, 24]
CSLDOR[10]
RESETDRV[4, 5, 10, 12, 18, 24]
SA<0>[5, 6, 10]
[12, 14, 16, 17, 24]
DRQ<2>[5, 24]
IRQ<6>[5, 24]
C112
10nF
NOTE 6, 7
R221
R222
1R
J22
OSC5
9.6MHz
8p/14p
Q2
9.600MHz
C114
68pF
C115
56pF
NOTE 5, 7
NOTE 3
C113
100nF
ACT74
U11/2
FDCLK2[7]
M16[7, 10, 13]
NOTES: 1) JS13 SELECTS WRITE PRECOMP. VAL.:
JS13 OPEN : 125 ns
JS13 CLOSED: 187 ns
2) JS14 SELECTS 2 SPEED SPINDLE DRIVE IF CLOSED
3) C113 IS BLOCK CAP TO OSC5
4) EITHER U36 OR R86 AND R87 ARE ASSEMBLED
5) EITHER OSC5 OR Q2, C114, C115 ARE ASSEMBLED
6) EITHER R221 OR R222 IS ASSMBLED
7) U36, OSC5, R222 NORMALLY NOT ASSEMBLED
EAT2_611
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I AT
USED ON: DESKTOP AT EURO AT II
SIZE A3
53196 53195 53197 53442 53457
REV 6
DATE: 11-16-90
SHEET: 11 of 25




NOTES:
1) U38 HAS SPECIAL POWER PINS:
   +12V = PIN 14
   -12V = PIN 1
   GND = PIN 7
2) C116 IS BLOCK CAP TO OSC6
3) C38A, C38B ARE BLOCK CAPS FOR U38

EAT2_612

| | | | |
|---|---|---|---|
| Schneider | | | |
| DRAWN BY: K. WINZEK | TITLE: SCHEMATIC SINGLEBOARD I AT | | |
| APPROVED: | | | |
| USED ON: DESKTOP AT EURO AT II | SIZE A3 | 53196 53195 53197 53442 53457 | REV 6 |
| DATE: 11-16-90 | | SHEET: 12 of 25 | |



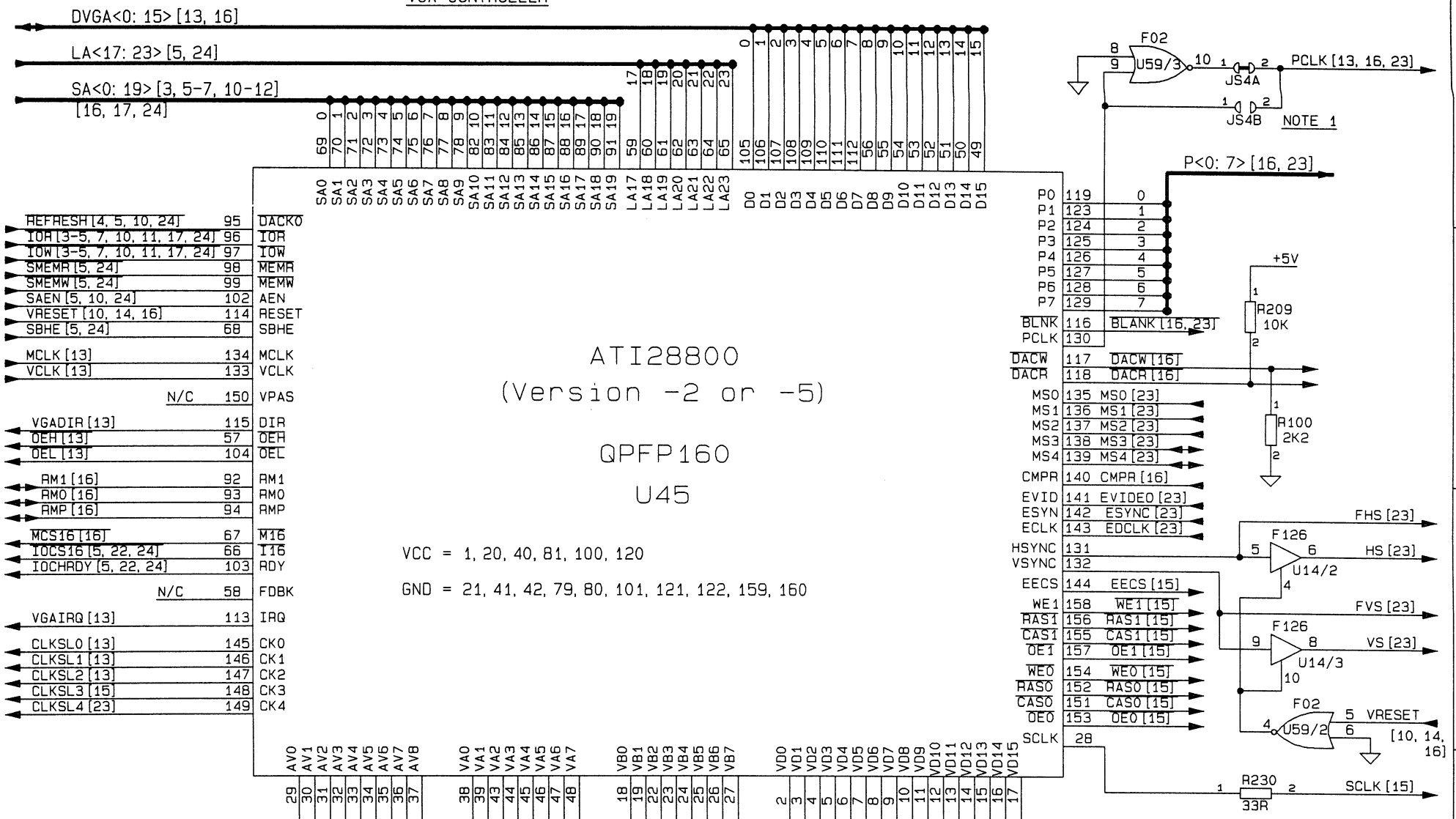

NOTES:
1) EITHER R98 OR R99 ASSEMBLED. ASSEMBLY OPTIONS SEE PAGE 1.
2) C126 NORMALLY NOT ASSEMBLED
3) C125 IS TANTALUM TYPE
4) R235 NORMALLY NOT ASSEMBLED
5) OSC7, C121 NORMALLY NOT ASSEMBLED
   CLOSE JS20B AND OPEN JS20A IF OSC7 IS USED
6) JS16A-D SELECT VGA RETRACE INTERRUPT
7) U42 (ACT74) NOT ASSEMBLED. WIRE CONNECTS U42 PINS 3 AND 9 AS A REWORK

EAT2_613

Schneider

| | | |
|---|---|---|
| DRAWN BY: K. WINZEK | TITLE: SCHEMATIC SINGLEBOARD I AT | |
| APPROVED: | | |
| USED ON: DESKTOP AT EURO AT II | SIZE A 3 | 53196 53195 53197 53442 53457 / REV 6 |
| DATE: 11-16-90 | SHEET: 13 of 25 | |

# VGA CONTROLLER



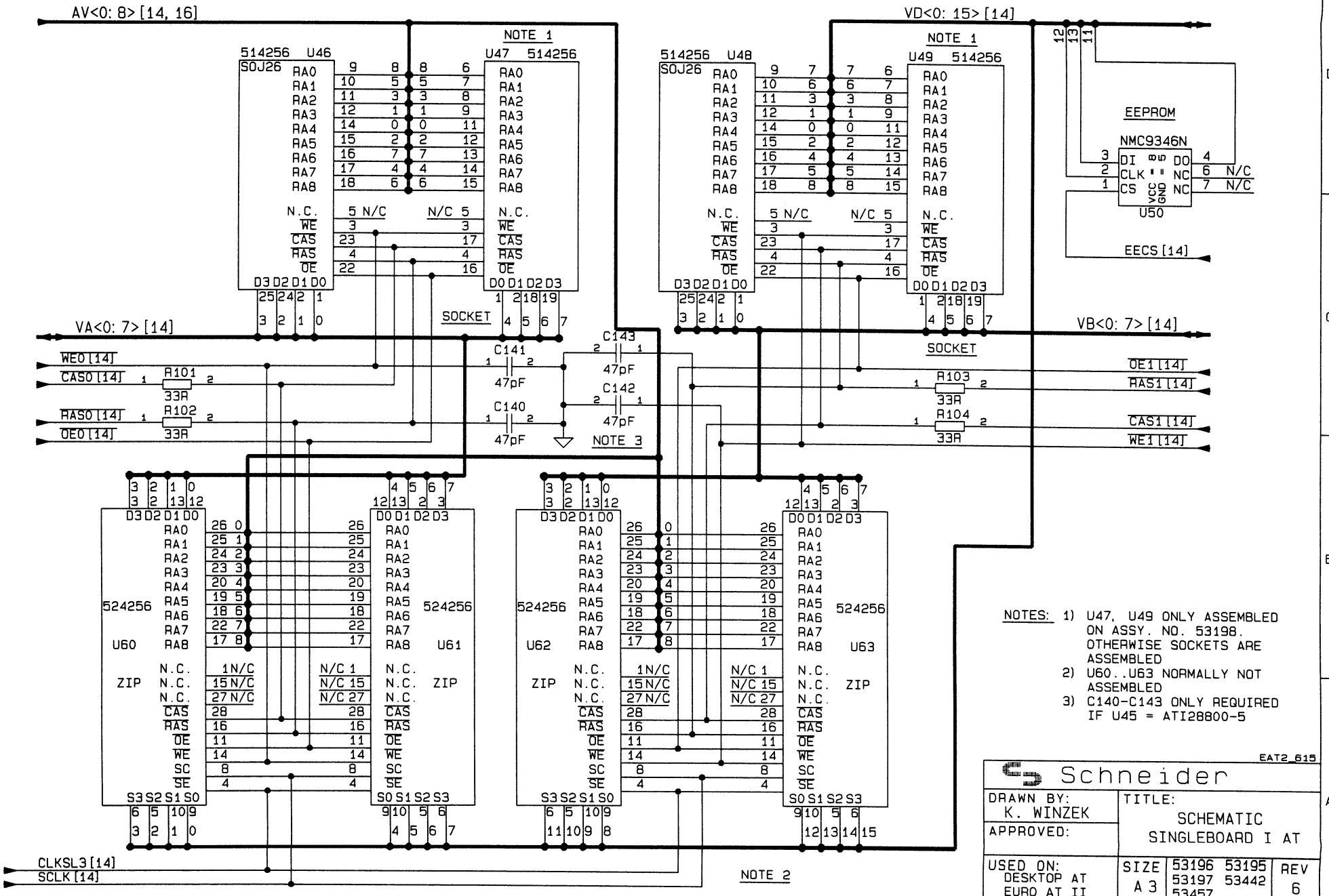

NOTES: 1) OPEN JS4A AND CLOSE JS4B IF EXTERNAL PCLK FROM FEATURE CONNECTOR SHOULD BE PROVIDED

EAT2_614

Schneider

| | |
|---|---|
| DRAWN BY: H. ULLRICH | TITLE: SCHEMATIC SINGLEBOARD I AT |
| APPROVED: | |
| USED ON: DESKTOP AT EURO AT II | SIZE A 3 — 53196 53195 53197 53442 53457 — REV 6 |
| DATE: 03-13-91 | SHEET: 14 of 25 |

# VGA RAM

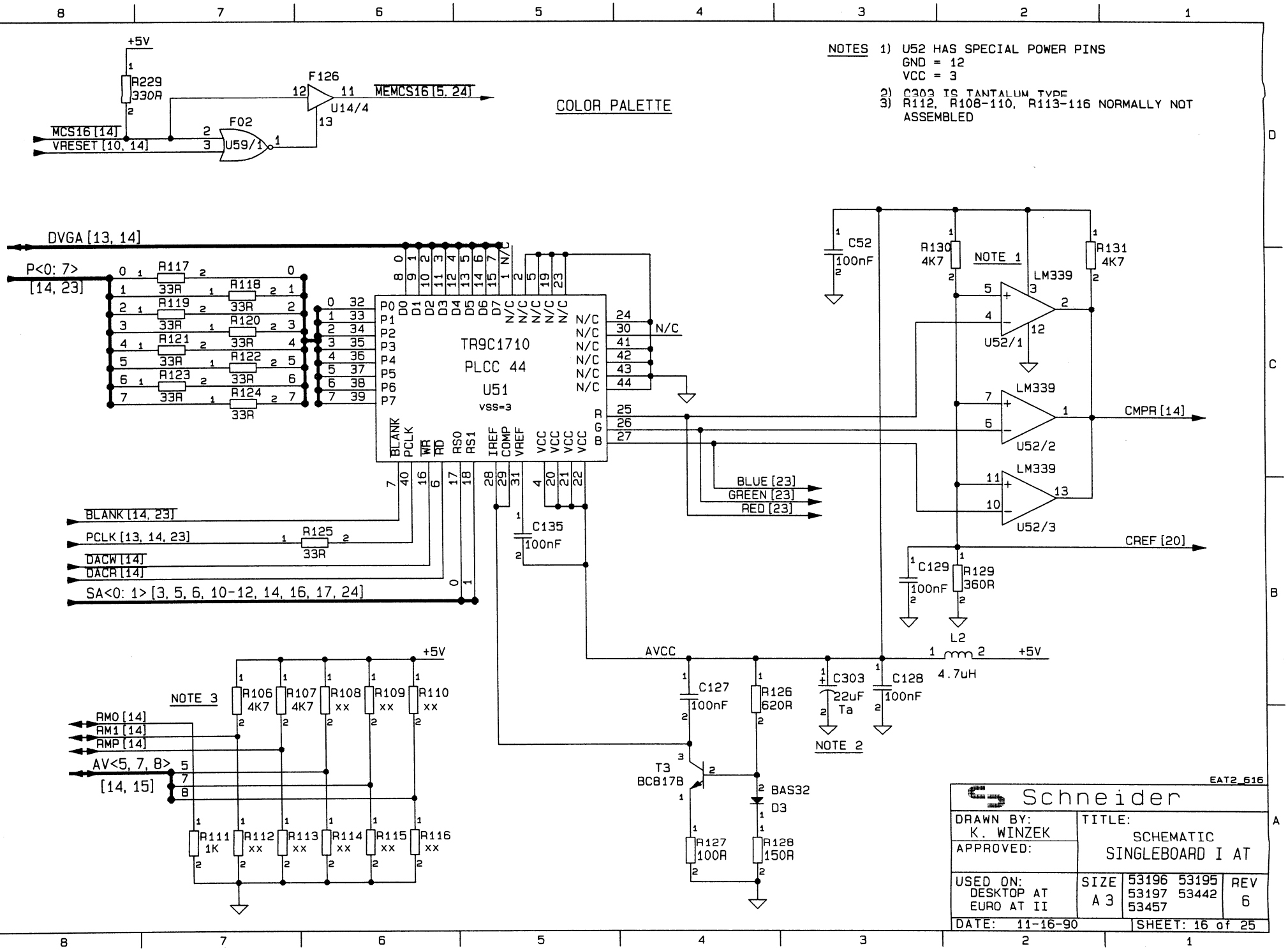


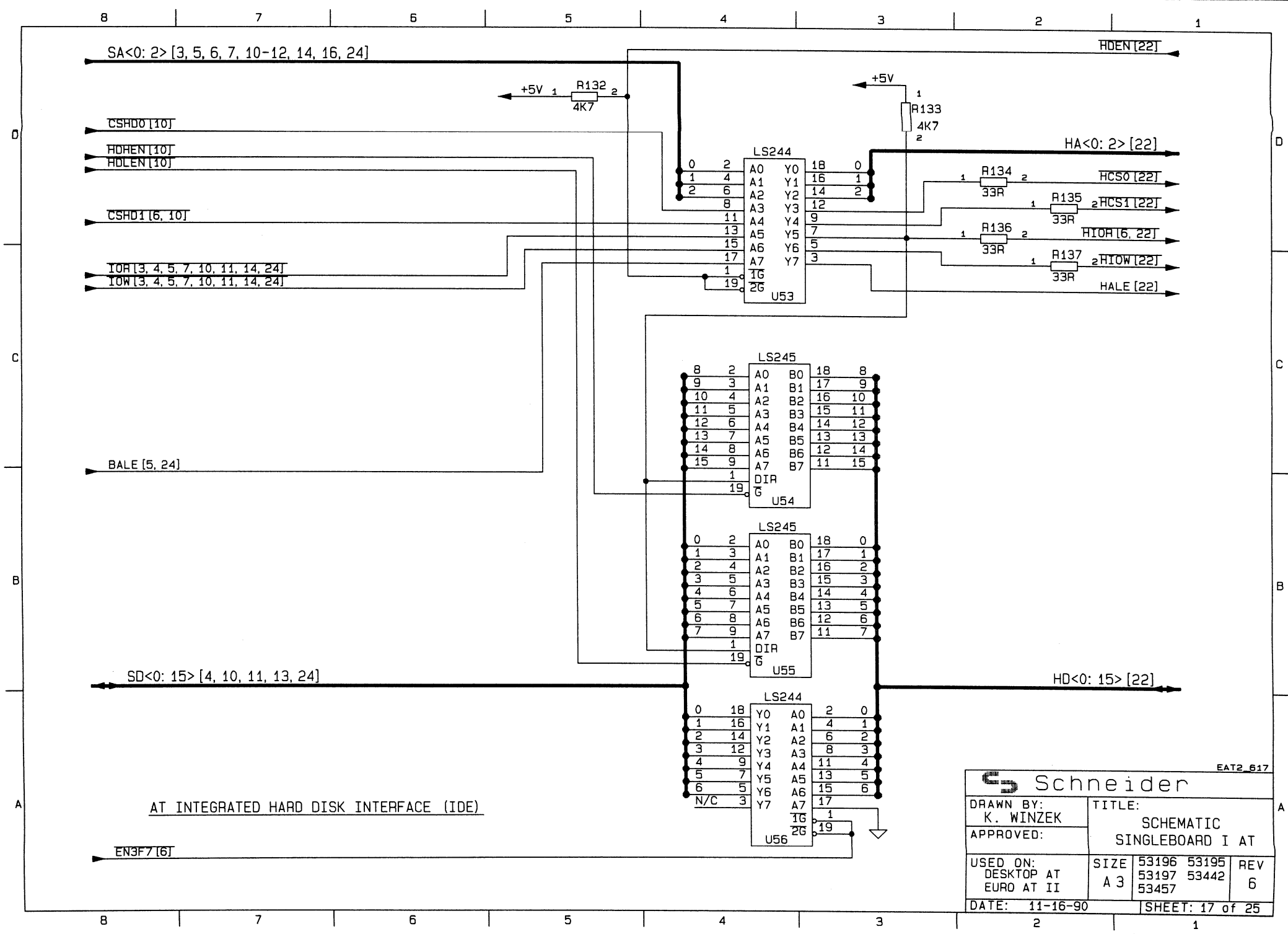

NOTES:
1) U47, U49 ONLY ASSEMBLED ON ASSY. NO. 53198. OTHERWISE SOCKETS ARE ASSEMBLED
2) U60..U63 NORMALLY NOT ASSEMBLED
3) C140-C143 ONLY REQUIRED IF U45 = ATI28800-5

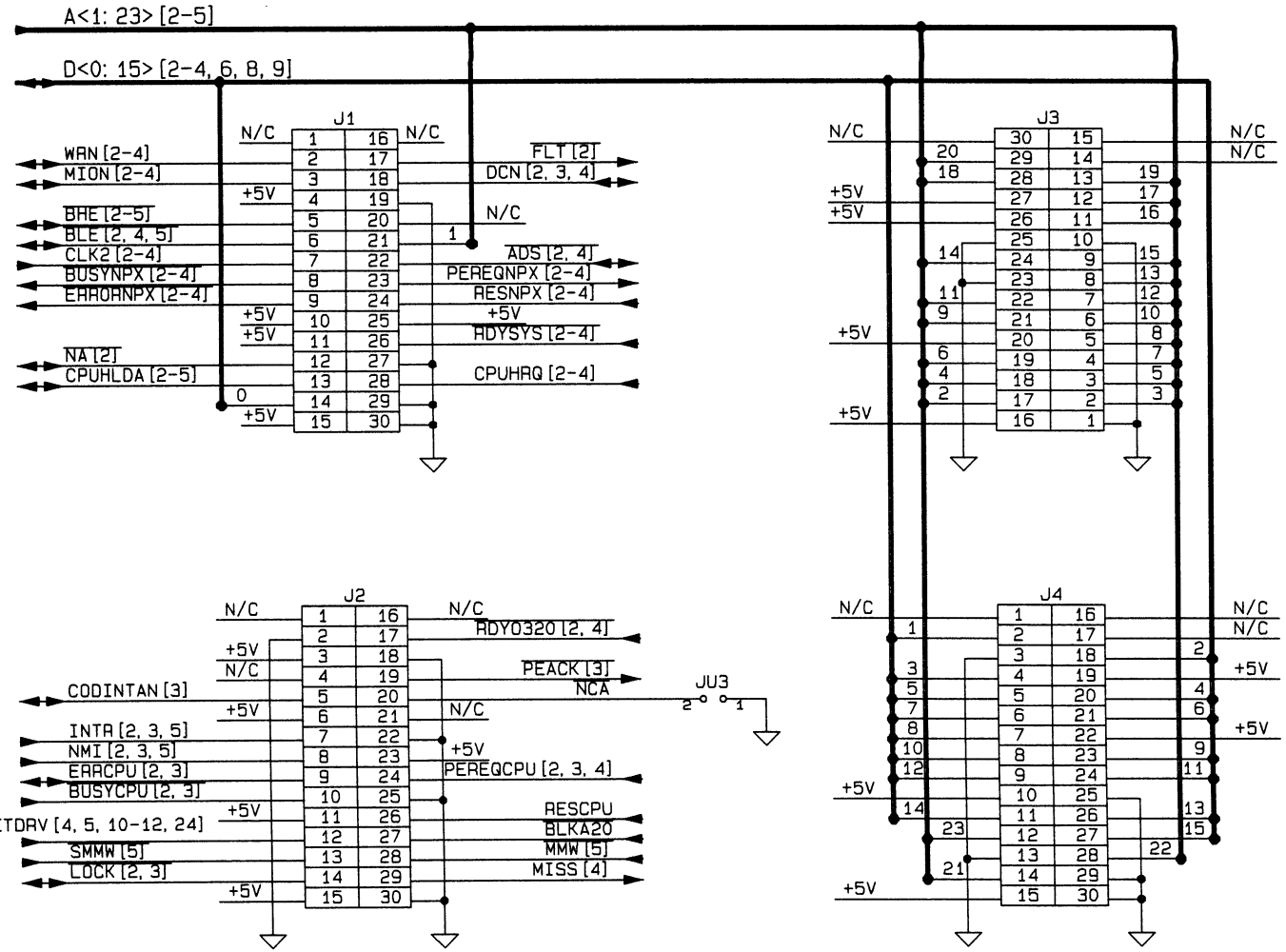
EAT2_615

Schneider

| | | | |
|---|---|---|---|
| DRAWN BY: K. WINZEK | TITLE: SCHEMATIC SINGLEBOARD I AT | | |
| APPROVED: | | | |
| USED ON: DESKTOP AT EURO AT II | SIZE A 3 | 53196 53195 53197 53442 53457 | REV 6 |
| DATE: 11-16-90 | | SHEET: 15 of 25 | |


COLOR PALETTE
NOTES 1) U52 HAS SPECIAL POWER PINS
GND = 12
VCC = 3
2) C303 IS TANTALUM TYPE
3) R112, R108-110, R113-116 NORMALLY NOT ASSEMBLED
+5V
R229 330R
F126
U14/4
MEMCS16 [5, 24]
MCS16 [14]
VRESET [10, 14]
F02
U59/1
DVGA [13, 14]
P<0: 7> [14, 23]
R117 33R
R118 33R
R119 33R
R120 33R
R121 33R
R122 33R
R123 33R
R124 33R
TR9C1710
PLCC 44
U51
VSS=3
BLANK [14, 23]
PCLK [13, 14, 23]
R125 33R
DACW [14]
DACR [14]
SA<0: 1> [3, 5, 6, 10-12, 14, 16, 17, 24]
C135 100nF
BLUE [23]
GREEN [23]
RED [23]
C52 100nF
R130 4K7
NOTE 1
R131 4K7
LM339
U52/1
U52/2
U52/3
CMPR [14]
CREF [20]
C129 100nF
R129 360R
L2 4.7uH
AVCC
C127 100nF
R126 620R
C303 22uF Ta
C128 100nF
NOTE 2
T3 BC817B
BAS32
D3
R127 100R
R128 150R
NOTE 3
R106 4K7
R107 4K7
R108 xx
R109 xx
R110 xx
AM0 [14]
AM1 [14]
AMP [14]
AV<5, 7, 8> [14, 15]
R111 1K
R112 xx
R113 xx
R114 xx
R115 xx
R116 xx
EAT2_616
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I AT
USED ON: DESKTOP AT EURO AT II
SIZE A 3
53196 53195 53197 53442 53457
REV 6
DATE: 11-16-90
SHEET: 16 of 25


SA<0: 2> [3, 5, 6, 7, 10-12, 14, 16, 24]
HDEN [22]
+5V
R132
4K7
+5V
R133
4K7
CSHD0 [10]
HDHEN [10]
HDLEN [10]
CSHD1 [6, 10]
IOR [3, 4, 5, 7, 10, 11, 14, 24]
IOW [3, 4, 5, 7, 10, 11, 14, 24]
BALE [5, 24]
SD<0: 15> [4, 10, 11, 13, 24]
EN3F7 [6]
LS244
U53
LS245
U54
LS245
U55
LS244
U56
HA<0: 2> [22]
R134
33R
HCS0 [22]
R135
33R
HCS1 [22]
R136
33R
HIOR [6, 22]
R137
33R
HIOW [22]
HALE [22]
HD<0: 15> [22]
AT INTEGRATED HARD DISK INTERFACE (IDE)
EAT2_617
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I AT
USED ON: DESKTOP AT EURO AT II
SIZE A 3
53196 53195 53197 53442 53457
REV 6
DATE: 11-16-90
SHEET: 17 of 25

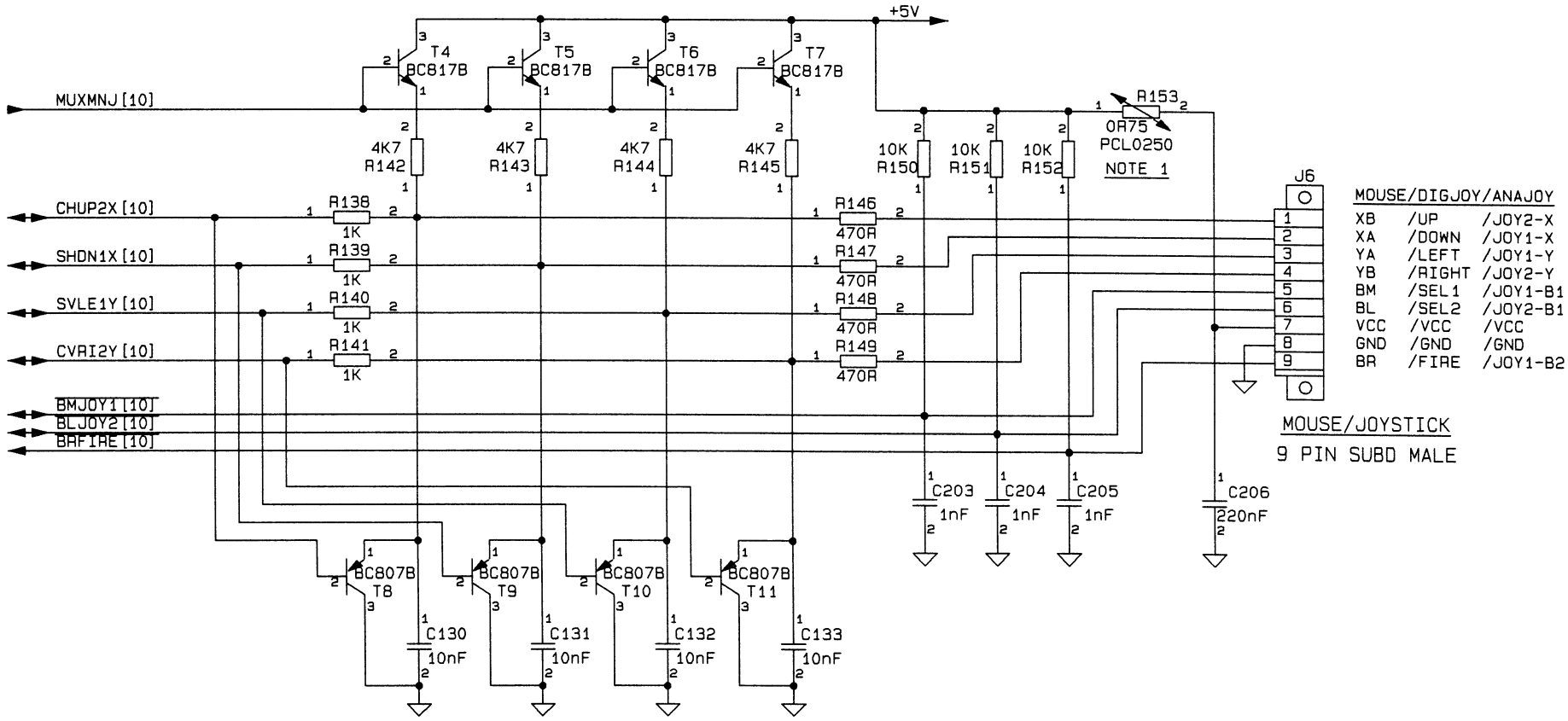



ICE CONNECTOR

EAT2_618

| | | | |
|---|---|---|---|
| Schneider | | | |
| DRAWN BY: K. WINZEK | TITLE: SCHEMATIC SINGLEBOARD I AT | | |
| APPROVED: | | | |
| USED ON: DESKTOP AT EURO AT II | SIZE A3 | 53196 53195 53197 53442 53457 | REV 6 |
| DATE: 11-19-90 | SHEET: 18 of 25 | | |

## JOYSTICK/MOUSE_CONNECTOR

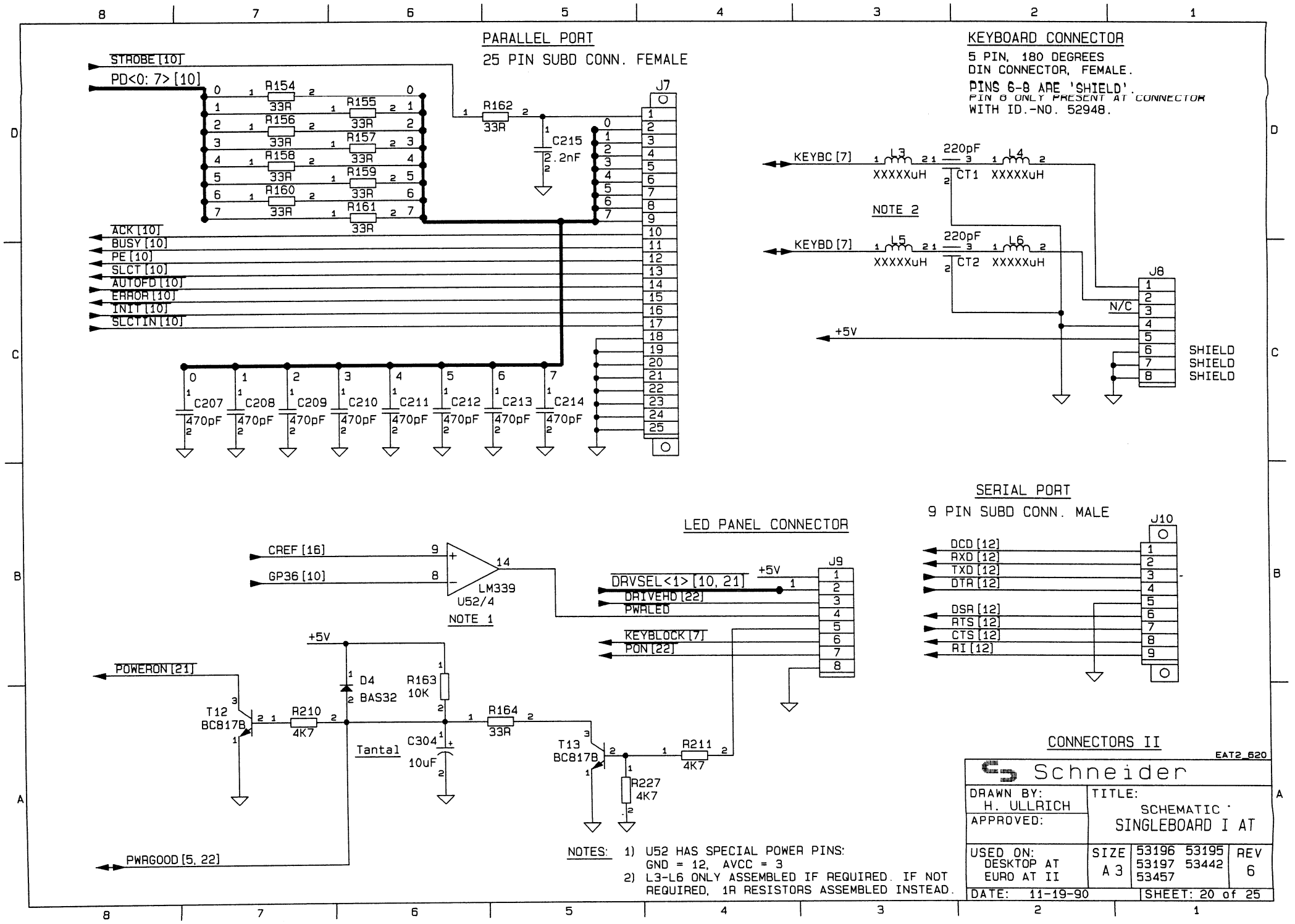



NOTES: 1) R153 IS A PTC RESISTOR FOR CURRENT LIMITATION

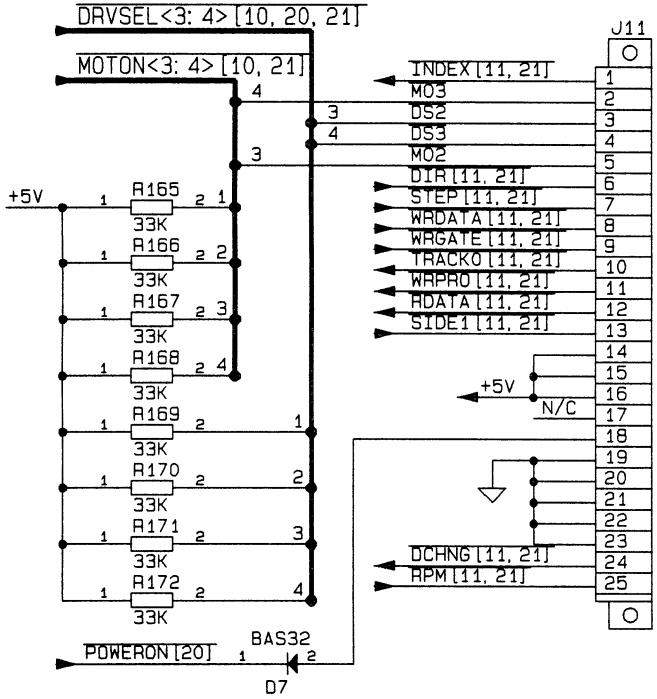
CONNECTORS I

EAT2_619

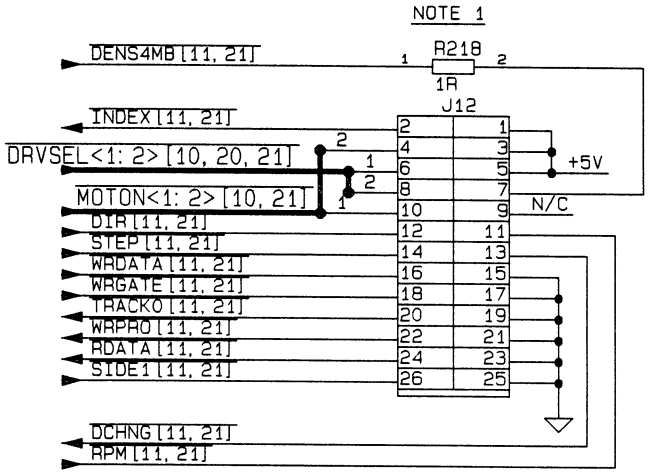
| | | | |
|---|---|---|---|
| Schneider | | | |
| DRAWN BY: K. WINZEK | TITLE: SCHEMATIC SINGLEBOARD I AT | | |
| APPROVED: | | | |
| USED ON: DESKTOP AT EURO AT II | SIZE A3 | 53196 53115 53197 53442 53457 | REV 6 |
| DATE: 11-16-90 | | SHEET: 19 of 25 | |


PARALLEL PORT
25 PIN SUBD CONN. FEMALE
STROBE [10]
PD<0: 7> [10]
R154
R155
R156
R157
R158
R159
R160
R161
33R
R162
C215
2.2nF
J7
ACK [10]
BUSY [10]
PE [10]
SLCT [10]
AUTOFD [10]
ERROR [10]
INIT [10]
SLCTIN [10]
C207
C208
C209
C210
C211
C212
C213
C214
470pF
KEYBOARD CONNECTOR
5 PIN, 180 DEGREES
DIN CONNECTOR, FEMALE.
PINS 6-8 ARE 'SHIELD'.
PIN 8 ONLY PRESENT AT CONNECTOR
WITH ID.-NO. 52948.
KEYBC [7]
KEYBD [7]
L3
L4
L5
L6
XXXXXuH
220pF
CT1
CT2
NOTE 2
J8
N/C
+5V
SHIELD
SHIELD
SHIELD
SERIAL PORT
9 PIN SUBD CONN. MALE
J10
DCD [12]
RXD [12]
TXD [12]
DTR [12]
DSR [12]
RTS [12]
CTS [12]
RI [12]
LED PANEL CONNECTOR
J9
CREF [16]
GP36 [10]
LM339
U52/4
NOTE 1
DRVSEL<1> [10, 21]
DRIVEHD [22]
PWRLED
KEYBLOCK [7]
PON [22]
POWERON [21]
PWRGOOD [5, 22]
T12
BC817B
T13
BC817B
R210
4K7
D4
BAS32
R163
10K
R164
33R
R211
4K7
R227
4K7
C304
10uF
Tantal
NOTES: 1) U52 HAS SPECIAL POWER PINS:
GND = 12, AVCC = 3
2) L3-L6 ONLY ASSEMBLED IF REQUIRED. IF NOT
REQUIRED, 1R RESISTORS ASSEMBLED INSTEAD.
CONNECTORS II
EAT2_620
Schneider
DRAWN BY:
H. ULLRICH
APPROVED:
TITLE:
SCHEMATIC
SINGLEBOARD I AT
USED ON:
DESKTOP AT
EURO AT II
SIZE
A 3
53196 53195
53197 53442
53457
REV
6
DATE: 11-19-90
SHEET: 20 of 25

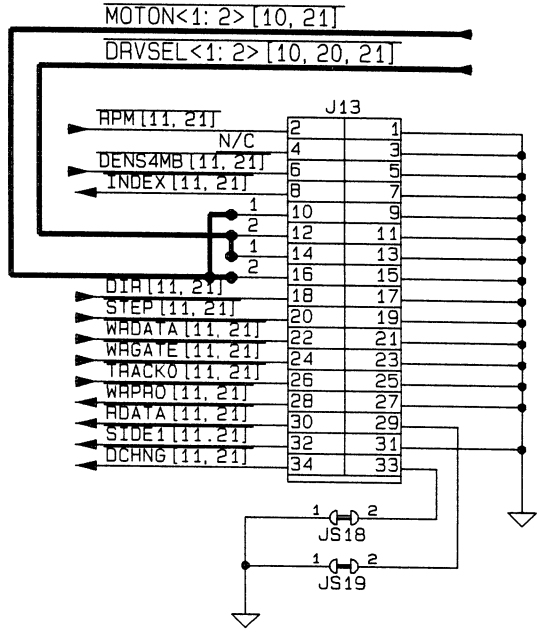
## FLOPPY EXTERN
25 PIN SUBD CONN. FEMALE




## FLOPPY INTERN
HEADER DUAL ROW 26 PIN




## FLOPPY INTERN
HEADER DUAL ROW 34 PIN



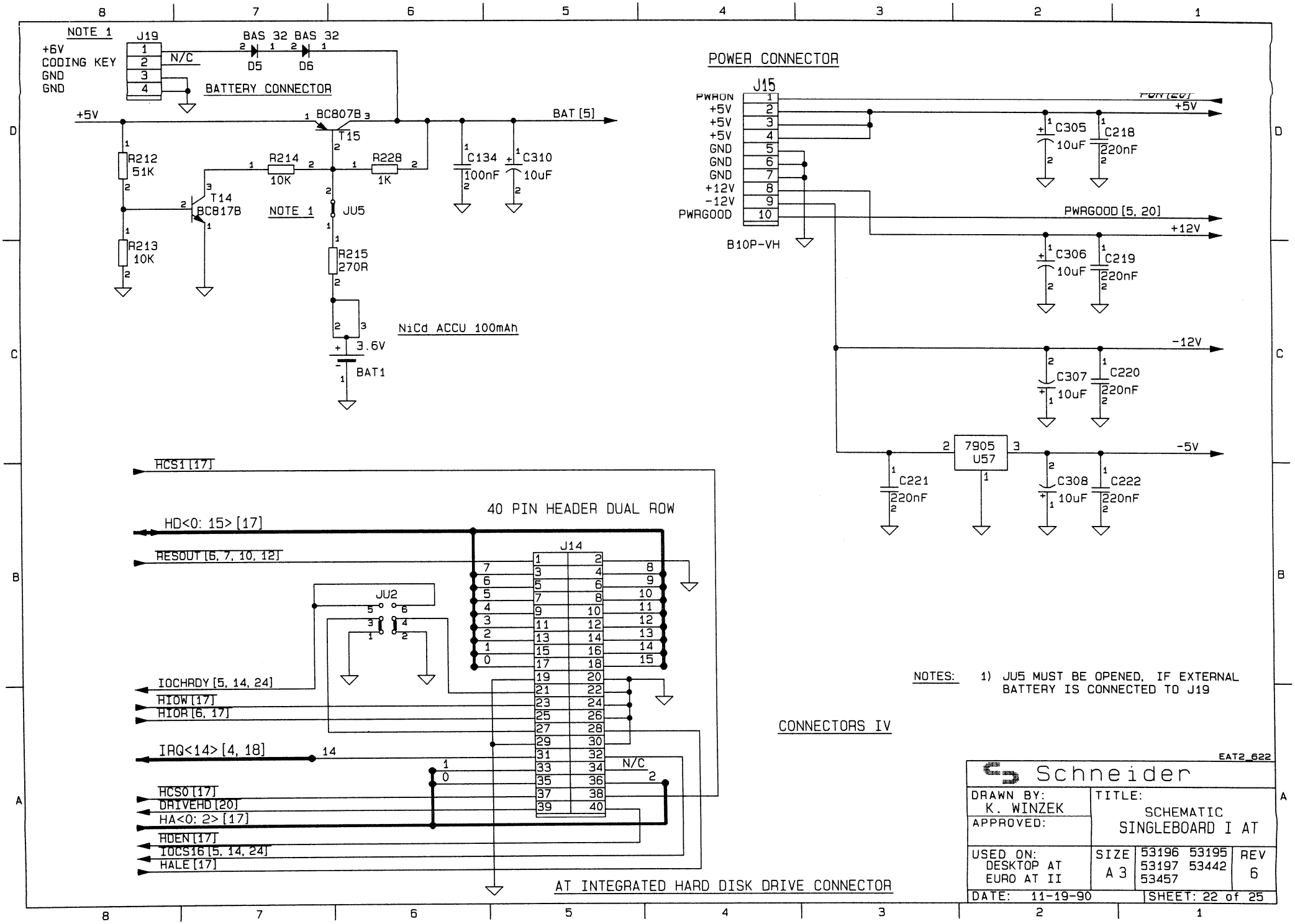

## CONNECTORS III

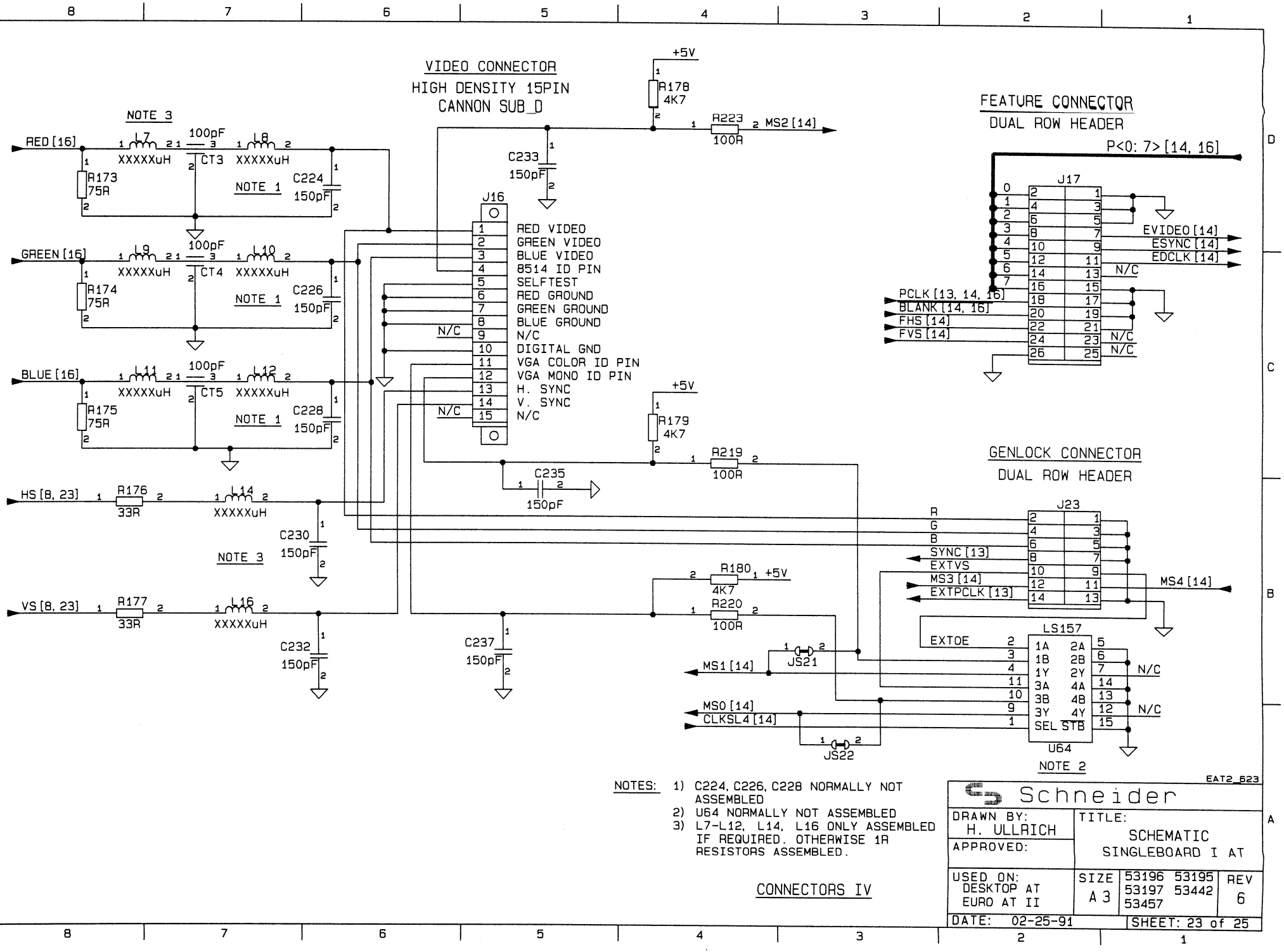
NOTES: 1) R218 NORMALLY NOT ASSEMBLED

EAT2_621

Schneider

| | |
|---|---|
| DRAWN BY: K. WINZEK | TITLE: SCHEMATIC SINGLEBOARD I AT |
| APPROVED: | |
| USED ON: DESKTOP AT EURO AT II | SIZE A3 — 53196 53195 53197 53442 53457 — REV 6 |
| DATE: 11-19-90 | SHEET: 21 of 25 |


NOTE 1
J19
+6V
CODING KEY
GND
GND
N/C
BAS 32 BAS 32
D5
D6
BATTERY CONNECTOR
+5V
BC807B
T15
BAT [5]
R212
51K
R214
10K
R228
1K
C134
100nF
C310
10uF
T14
BC817B
NOTE 1
JU5
R213
10K
R215
270R
NiCd ACCU 100mAh
3.6V
BAT1
POWER CONNECTOR
J15
PWRON
+5V
+5V
+5V
GND
GND
GND
+12V
-12V
PWRGOOD
B10P-VH
PWRGOOD [5, 20]
C305
10uF
C218
220nF
C306
10uF
C219
220nF
C307
10uF
C220
220nF
7905
U57
C221
220nF
C308
10uF
C222
220nF
-12V
-5V
HCS1 [17]
40 PIN HEADER DUAL ROW
HD<0: 15> [17]
RESOUT [6, 7, 10, 12]
J14
JU2
IOCHRDY [5, 14, 24]
HIOW [17]
HIOR [6, 17]
IRQ<14> [4, 18]
14
N/C
HCS0 [17]
DRIVEHD [20]
HA<0: 2> [17]
HDEN [17]
IOCS16 [5, 14, 24]
HALE [17]
AT INTEGRATED HARD DISK DRIVE CONNECTOR
NOTES: 1) JU5 MUST BE OPENED, IF EXTERNAL BATTERY IS CONNECTED TO J19
CONNECTORS IV
EAT2_622
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I AT
USED ON: DESKTOP AT EURO AT II
SIZE A 3
53196 53195 53197 53442 53457
REV 6
DATE: 11-19-90
SHEET: 22 of 25



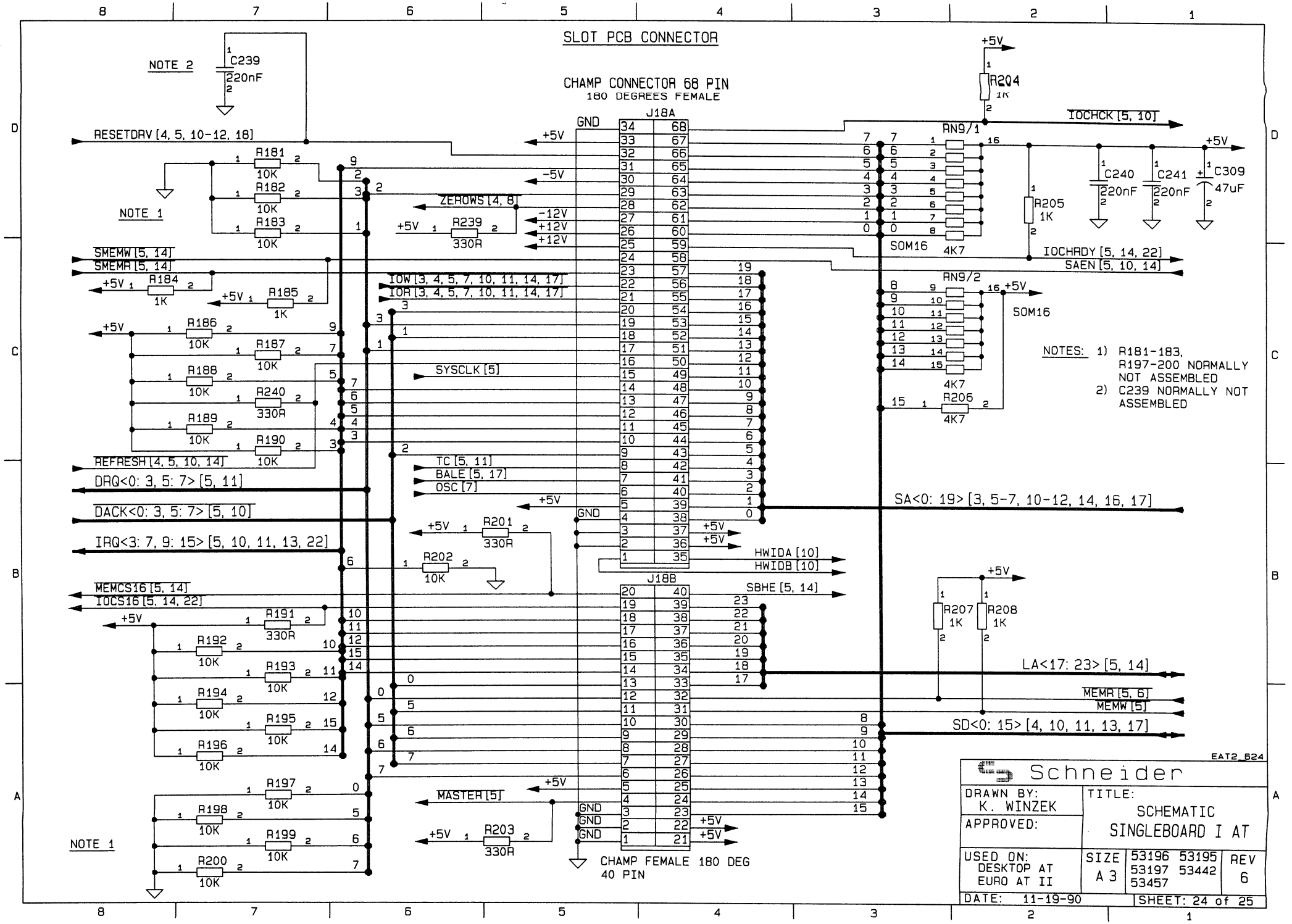

NOTES:
1) C224, C226, C228 NORMALLY NOT ASSEMBLED
2) U64 NORMALLY NOT ASSEMBLED
3) L7-L12, L14, L16 ONLY ASSEMBLED IF REQUIRED. OTHERWISE 1R RESISTORS ASSEMBLED.

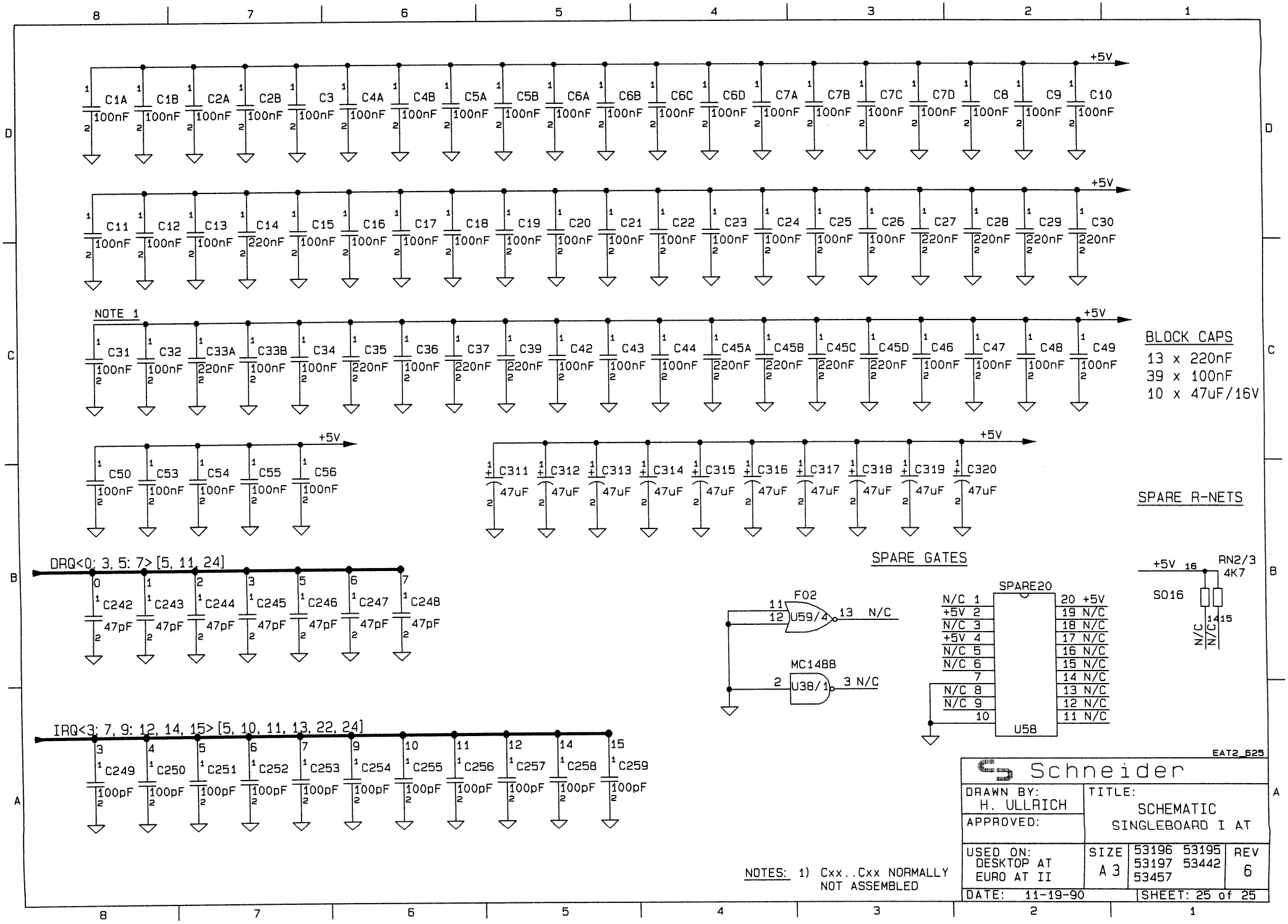
CONNECTORS IV

EAT2_623

Schneider

| | | |
|---|---|---|
| DRAWN BY: H. ULLRICH | TITLE: SCHEMATIC SINGLEBOARD I AT | |
| APPROVED: | | |
| USED ON: DESKTOP AT EURO AT II | SIZE A 3 | 53196 53195 53197 53442 53457 / REV 6 |
| DATE: 02-25-91 | SHEET: 23 of 25 | |


SLOT PCB CONNECTOR
CHAMP CONNECTOR 68 PIN
180 DEGREES FEMALE
J18A
J18B
CHAMP FEMALE 180 DEG
40 PIN
NOTE 1
NOTE 2
C239
220nF
RESETDRV [4, 5, 10-12, 18]
SMEMW [5, 14]
SMEMR [5, 14]
IOW [3, 4, 5, 7, 10, 11, 14, 17]
IOR [3, 4, 5, 7, 10, 11, 14, 17]
SYSCLK [5]
ZEROWS [4, 8]
REFRESH [4, 5, 10, 14]
DRQ<0: 3, 5: 7> [5, 11]
DACK<0: 3, 5: 7> [5, 10]
IRQ<3: 7, 9: 15> [5, 10, 11, 13, 22]
MEMCS16 [5, 14]
IOCS16 [5, 14, 22]
TC [5, 11]
BALE [5, 17]
OSC [7]
MASTER [5]
HWIDA [10]
HWIDB [10]
SBHE [5, 14]
IOCHCK [5, 10]
IOCHRDY [5, 14, 22]
SAEN [5, 10, 14]
SA<0: 19> [3, 5-7, 10-12, 14, 16, 17]
LA<17: 23> [5, 14]
MEMR [5, 6]
MEMW [5]
SD<0: 15> [4, 10, 11, 13, 17]
SOM16
4K7
NOTES: 1) R181-183, R197-200 NORMALLY NOT ASSEMBLED
2) C239 NORMALLY NOT ASSEMBLED
EAT2_624
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I AT
USED ON: DESKTOP AT EURO AT II
SIZE A 3
53196 53195 53197 53442 53457
REV 6
DATE: 11-19-90
SHEET: 24 of 25



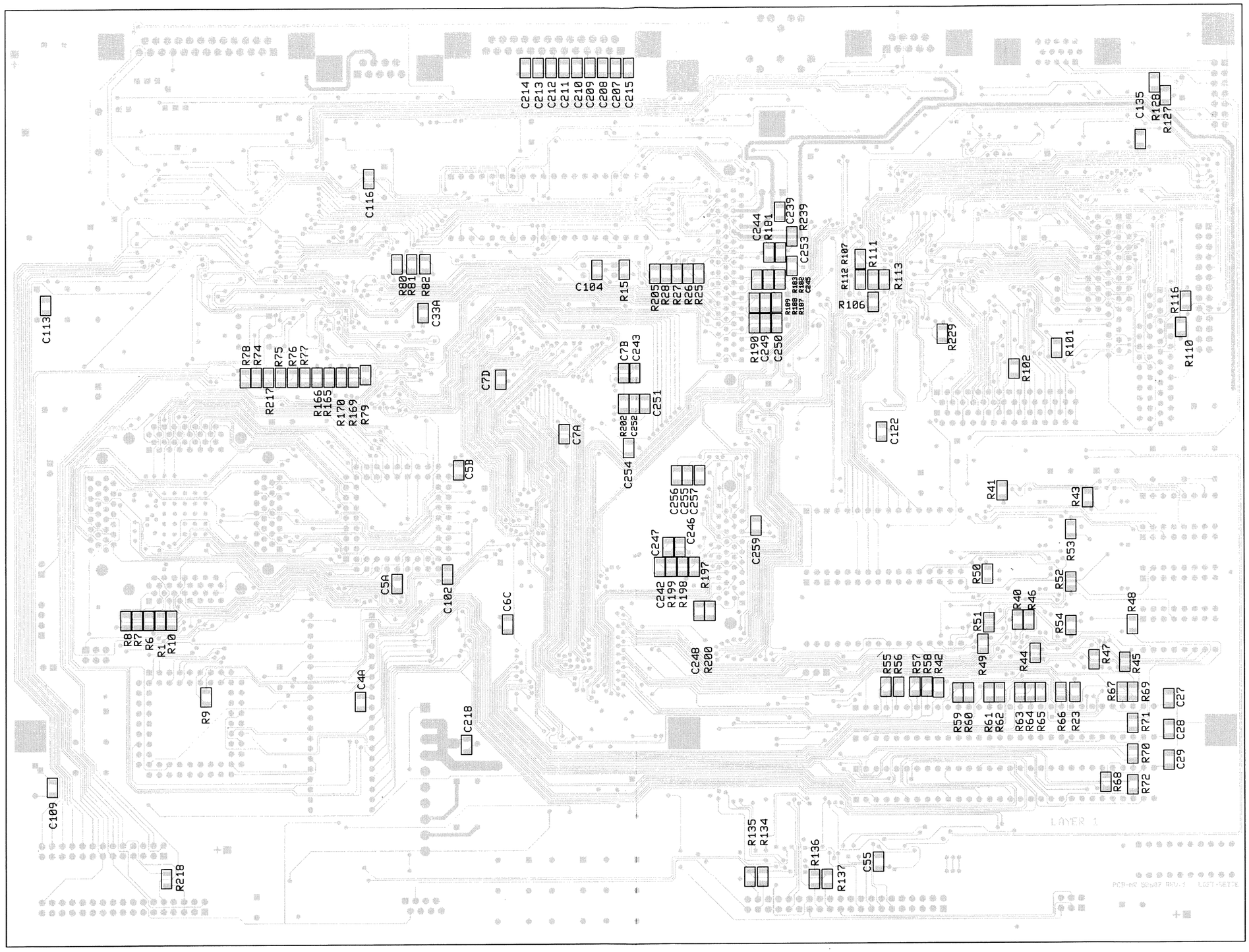

NOTES: 1) Cxx..Cxx NORMALLY NOT ASSEMBLED

EAT2_625

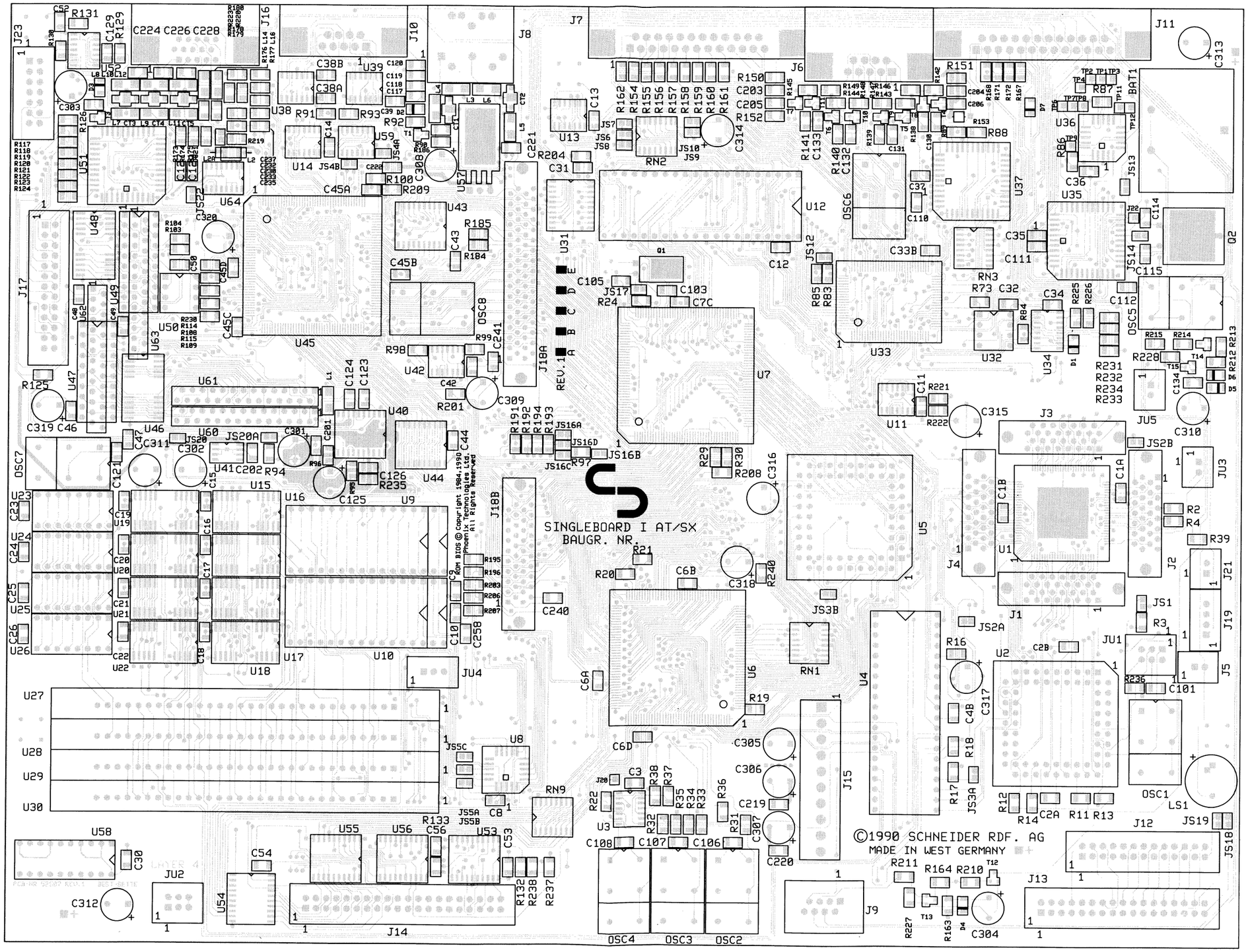
Schneider

| | | | |
|---|---|---|---|
| DRAWN BY: H. ULLRICH | TITLE: SCHEMATIC SINGLEBOARD I AT | | |
| APPROVED: | | | |
| USED ON: DESKTOP AT EURO AT II | SIZE A 3 | 53196 53195 53197 53442 53457 | REV 6 |
| DATE: 11-19-90 | | SHEET: 25 of 25 | |

## CPU P.C.B.
### Soldering side



## CPU P.C.B.
### Component side



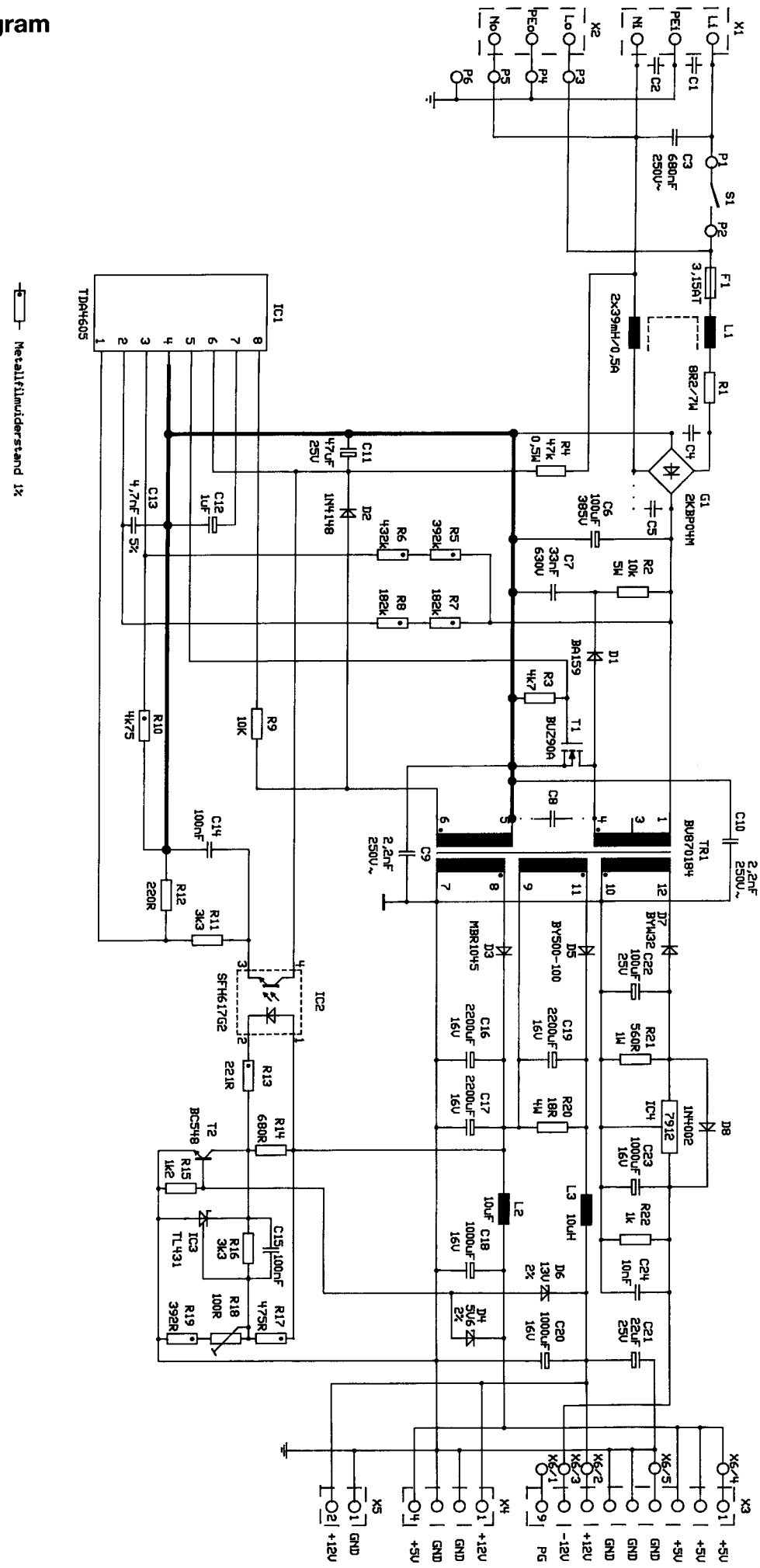
## Ersatzteilliste für Platine CPU 16 MHz/20 MHz
## Parts list for CPU P.C.B. 16 MHz/20 MHz

| Best.-Nr. Part.-No. | Bezeichnung | Description | Zeich.-Pos. Ref.-No. | Preisgruppe Price key |
|---|---|---|---|---|
| 52 754 00 | IC 74 F 08 SO14 | IC 74 F 08 SO14 | U 3 | A 7 |
| 53 146 00 | IC 80286-16 CPU 16 MHz | IC 80286-16 CPU 16 MHz | U 5 | E 2 |
| 52 759 00 | IC VL 82C320 QPFP 160 | IC VL 82C320 QPFP 160 | U 6 | E 6 |
| 52 760 00 | IC VL 82C331 QPFP 160 | IC VL 82C331 QPFP 160 | U 7 | E 1 |
| 52 729 00 | IC HAL 16 L8B PLCC Prog. | IC HAL 16 L8B PLCC prog. | U 8 | B 6 |
| 65 466 00 | IC BIOS-KIT | IC BIOS-KIT | U 9, 10 | E 9 |
| 52 751 00 | IC 74 ACT 74 SO14 | IC 74 ACT 74 SO14 | U 11 | A 7 |
| 50 243 00 | IC 8042 12 MHz | IC 8042 12 MHz | U 12 | C 3 |
| 51 586 00 | IC 7406 SO14 | IC 7406 SO14 | U 13 | A 9 |
| 51 589 00 | IC 74 F 126 SO14 | IC 74 F 126 SO14 | U 14 | A 6 |
| 52 749 00 | IC DRAM 256K X 4 80NS | IC DRAM 256K X 4 80NS | U 15-22, 46, 48 | D 0 |
| 52 761 00 | IC SIMM Sockel 2 X 30 PIN | IC SIMM 2 X 30 PIN | U 27-30 | B 5 |
| 51 319 00 | IC 74 LS 245 SO20 | IC 74 LS 245 SO20 | U 31, 43, 44, 54, 55 | A 7 |
| 52 758 00 | IC NMC 9346N DIL8 | IC NMC 9346N DIL8 | U 32, 50 | B 5 |
| 50 773 00 | IC BIGJIM TC110G008 | IC BIGJIM TC110G008 | U 33 | D 1 |
| 51 318 00 | IC 74 HC 165 SO22 | IC 74 HC 165 SO22 | U 34 | A 9 |
| 50 105 00 | IC WD 37C65A/B-JMOO | IC WD 37C65A/B-JMOO | U 35 | D 5 |
| 50 827 00 | IC 16 C 450 PLCC44 | IC 16 C 450 PLCC44 | U 37 | C 6 |
| 52 756 00 | IC MC 1488 SO14 | IC MC 1488 SO14 | U 38 | A 6 |
| 52 757 00 | IC MC 1489 SO | IC MC 1489 SO | U 39 | A 6 |
| 52 752 00 | IC ATI 18810 SO20 | IC ATI 18810 SO20 | U 40 | C 3 |
| 52 750 00 | IC 78 L 05 S08 | IC 78 L 05 S08 | U 41 | A 4 |
| 52 753 00 | IC ATI 28800 QPFP 160 | IC ATI 28800 QPFP 160 | U 45 | F 1 |
| 52 944 00 | IC TR 9C 1710-66DC | IC TR 9C 1710-66DC | U 51 | C 7 |
| 51 543 00 | IC LM 339 Quad Comparator | IC LM 339 quad comparator | U 52 | B 2 |
| 51 321 00 | IC 74 LS 244 SO20 | IC 74 LS 244 SO20 | U 53, 56 | B 0 |
| 50 238 00 | IC 7905 | IC 7905 | U 57 | A 6 |
| 52 982 00 | IC 74 F 02 SO14 | IC 74 F 02 SO14 | U 59 | A 7 |
| 52 763 00 | Transistor BC 817 | Transistor BC 817 | T 1, 3-7, 12-14 | A 1 |
| 52 764 00 | Transistor BC 807 | Transistor BC 807 | T 8-11, 15 | A 1 |
| 52 765 00 | Diode BAS 32 | Diode BAS 32 | D 1-7 | A 5 |
| 52 348 00 | Oszillator 14,3181 MHz | Oscillator 14.3181 MHz | OSC 3 | B 8 |
| 50 833 00 | Oszillator 32,0 MHz | Oscillator 32.0 MHz | OSC 4 | B 8 |
| 51 330 00 | Oszillator 1,8432 MHz | Oscillator 1.8432 MHz | OSC 6 | C 2 |
| 50 989 00 | Oszillator 45,0 MHz | Oscillator 45.0 MHz | OSC 8 | C 2 |
| 51 040 00 | Quarz 32,768 kHz | Crystal 32.768 kHz | Q 1 | A 7 |
| 51 093 00 | Quarz 9,6 MHz | Crystal 9.6 MHz | Q 2 | A 8 |
| 50 321 00 | Widerstand PTC 0R75 | Resistor PTC 0R75 | R 153 | B 0 |
| 52 769 00 | R-Netzwerk 15×10K | R, network 15×10K | RN 1 | A 7 |
| 52 768 00 | R-Netzwerk 15×4K7 | R, network 15×4K7 | RN 2, 9 | A 7 |
| 52 767 00 | R-Netzwerk 15×1K | R, network 15×1K | RN 3 | A 7 |
| 52 775 00 | Spule 4,7 µH | Coil 4.7 µH | L 2 | A 7 |
| 52 777 00 | Batterie 3,6 V | Battery 3.6 V | BAT 1 | C 0 |
| 50 332 00 | Summer | Buzzer | LS 1 | A 8 |
| 51 569 00 | Stiftleiste 26pol. | Socket 26-pin | J 12, 17 | A 7 |
| 51 084 00 | Stiftleiste 2×17 | Socket 2×17 | J 13 | A 7 |
| 51 085 00 | Stiftleiste 2×20 | Socket 2×20 | J 14 | A 7 |
| 52 779 00 | Stiftleiste | Socket | J 15 | A 7 |
| 53 247 00 | Stiftleiste 4pol. | Socket 4-pin | J 19 | A 7 |
| 51 626 00 | Stiftleiste 2pol. | Socket 2-pin | J 21, JU 5 | A 7 |
| 51 385 00 | Buchse SUB-D 9pol. | Socket SUB-D 9-pin | J 6 | C 3 |
| 52 984 00 | Buchse SUB-D 25pol. | Socket SUB-D 25-pin | J 7, 11 | B 2 |
| 51 139 00 | Stiftleiste 6pol. | Socket 6-pin | JU 1, 2 | A 7 |
| 50 253 00 | Stiftleiste 3pol. | Socket 3-pin | JU 4 | A 7 |

## Ersatzteilliste für Platine CPU 20 MHz
## Parts list for CPU P.C.B. 20 MHz

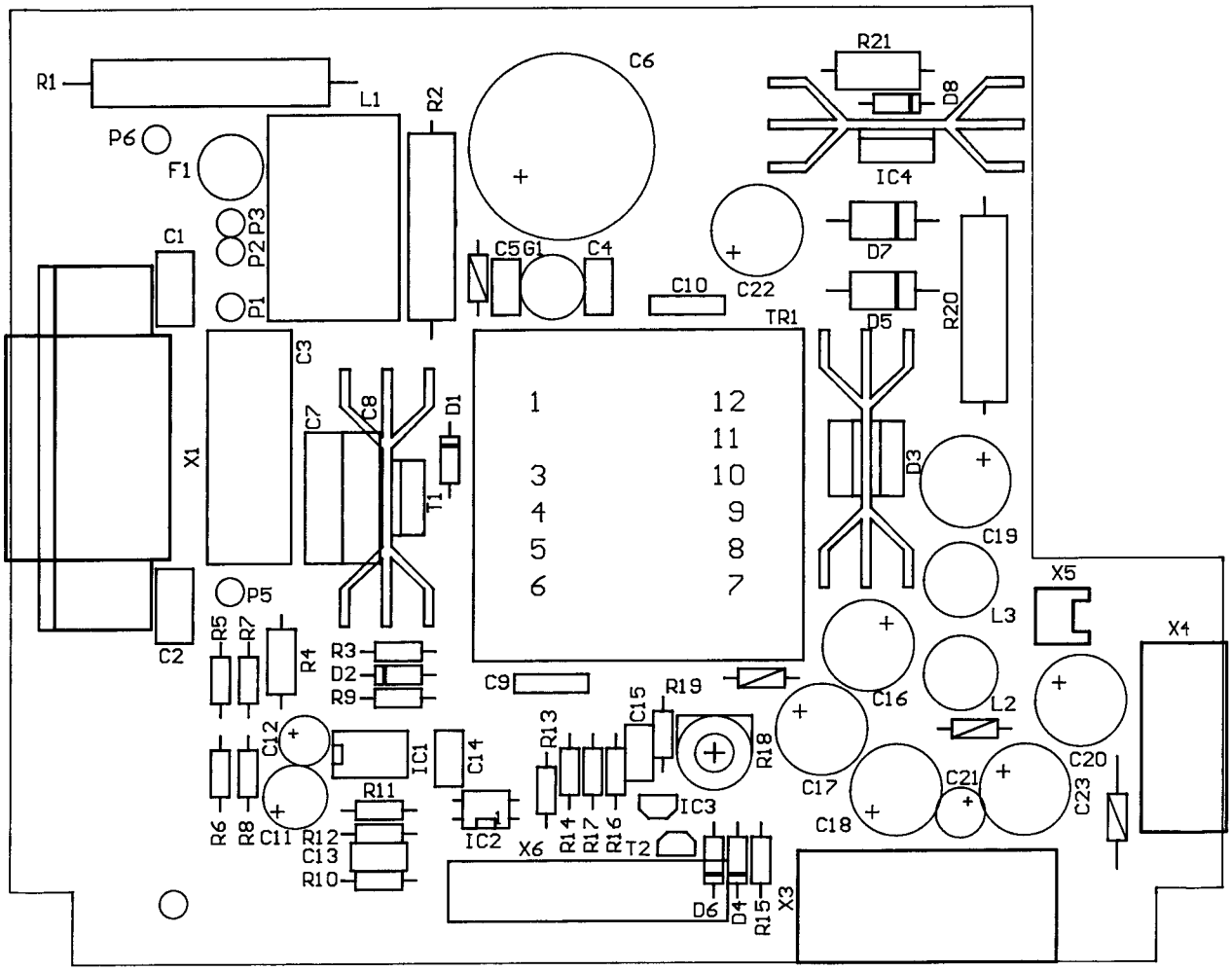
| Best.-Nr. Part.-No. | Bezeichnung | Description | Zeich.-Pos. Ref.-No. | Preisgruppe Price key |
|---|---|---|---|---|
| 53 147 00 | IC 80286-20 CPU 20 MHz | IC 80286-20 CPU 20 MHz | U 1 | F 7 |
| 53 246 00 | IC DRAM 256K X 4 60NS | IC DRAM 256K X 4 60NS | U 15-22 | D 0 |
| 50 153 00 | IC 256K X 4 DIL DRAM 85NS | IC 256K X 4 DIL DRAM 85NS | U 47, 49 | D 3 |
| 52 762 00 | Oszillator 40,0 MHz | Oscillator 40.0 MHz | OSC 2 | B 8 |

## Schematic diagram
## Power supply

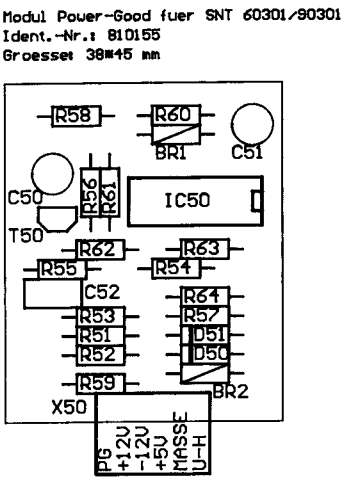


## Power supply
## Component side

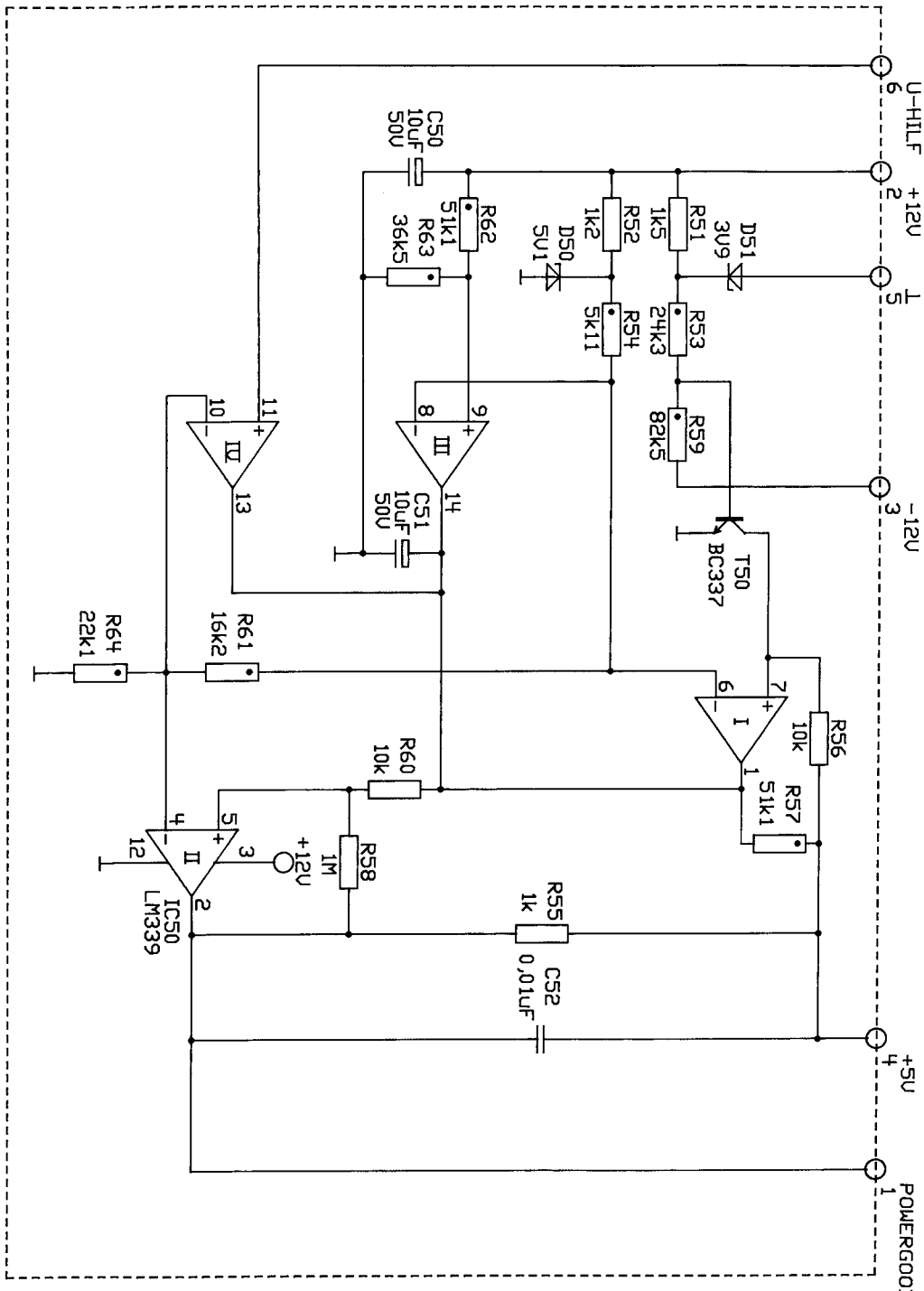
SNT 60300/60301 Schneider
Ident.-Nr.: 810154v2
Groesse: 130*166 mm




## Power good modul
## Component side



## Schematic diagram
## Power good modul



## Error Code Table for EURO AT II

The "DIAGNP OUTPUT" codes are placed at the diagnostic status port to indicate tests in progress and failed tests to someone with hardware which can detect the output. If the FAILBEEP option is selected, the "BEEP CODES" are announced on the speaker if and only if a fatal failure is detected. For instance, "2-1-4" (a burst of two beeps, a single beep, a burst of four beeps) indicates a failure of bit 3 in the first 64K of RAM. Both set of codes are only used prior to screen initialization and screen retrace verification.

Once the screen is believed operable, any diagnostic reporting is via screen messages, except if MANLOOP EQU TRUE and the jumpers say to loop on POST. In this case, it is assumed that no video adapter is attached and some additional errors will be reported via DIAGNP and the speaker.

| DIAGNP OUTPUT | BEEP CODES | DESCRIPTION OF TEST OR FAILURE |
|---|---|---|
| 01h | | 80286 register test in-progress |
| 02h | 1-1-3 | CMOS write/read test in-progress or failure |
| 03h | 1-1-4 | BIOS ROM checksum in-progress or failure |
| 04h | 1-2-1 | Programmable Interval Timer test in-progress or failure |
| 05h | 1-2-2 | DMA initialization in-progress or failure |
| 06h | 1-2-3 | DMA page register write/read test in-progress or fail |
| 07h | 1-2-4 | JIM port address offset determination in-progress or not found |
| 08h | 1-3-1 | RAM refresh verification in-progress or failure |
| 09h | | 1st 64K RAM test in-progress |
| 0Ah | 1-3-3 | 1st 64K RAM chip or data line failure - multi-bit |
| 0Bh | 1-3-4 | 1st 64K RAM odd/even logic failure |
| 0Ch | 1-4-1 | 1st 64K RAM address line failure |
| 0Dh | 1-4-2 | 1st 64K RAM parity test in_progress or failure |
| 0Eh | 1-4-3 | invalid PBC ID ;V2.00 |
| 10h | 2-1-1 | 1st 64K RAM chip or data line failure - bit 0 |
| 11h | 2-1-2 | 1st 64K RAM chip or data line failure - bit 1 |
| 12h | 2-1-3 | 1st 64K RAM chip or data line failure - bit 2 |
| 13h | 2-1-4 | 1st 64K RAM chip or data line failure - bit 3 |
| 14h | 2-2-1 | 1st 64K RAM chip or data line failure - bit 4 |
| 15h | 2-2-2 | 1st 64K RAM chip or data line failure - bit 5 |
| 16h | 2-2-3 | 1st 64K RAM chip or data line failure - bit 6 |
| 17h | 2-2-4 | 1st 64K RAM chip or data line failure - bit 7 |
| 18h | 2-3-1 | 1st 64K RAM chip or data line failure - bit 8 |
| 19h | 2-3-2 | 1st 64K RAM chip or data line failure - bit 9 |
| 1Ah | 2-3-3 | 1st 64K RAM chip or data line failure - bit A |
| 1Bh | 2-3-4 | 1st 64K RAM chip or data line failure - bit B |
| 1Ch | 2-4-1 | 1st 64K RAM chip or data line failure - bit C |
| 1Dh | 2-4-2 | 1st 64K RAM chip or data line failure - bit D |
| 1Eh | 2-4-3 | 1st 64K RAM chip or data line failure - bit E |
| 1Fh | 2-4-4 | 1st 64K RAM chip or data line failure - bit F |
| 20h | 3-1-1 | slave DMA register test in-progress or failure |
| 21h | 3-1-2 | master DMA register test in-progress or failure |
| 22h | 3-1-3 | master interrupt mask register test in-progress or fail |
| 23h | 3-1-4 | slave interrupt mask register test in-progress or fail |
| 25h | | interrupt vector loading in-progress |
| 27h | 3-2-4 | keyboard controller test in-progress or failure |
| 28h | | CMOS power-fail and checksum checks in-progress |
| 29h | | CMOS config info validation in-progress |
| 2Ah | 3-3-3 | monitor type determination in-progress or failure |
| 2Bh | 3-3-4 | screen memory test in-progress or failure |
| 2Ch | 3-4-1 | screen initialization in-progress or failure |
| 2Dh | 3-4-2 | screen retrace tests in-progress or failure |
| 2Eh | | search for video ROM in-progress |
| 30h | | screen believed operable: |

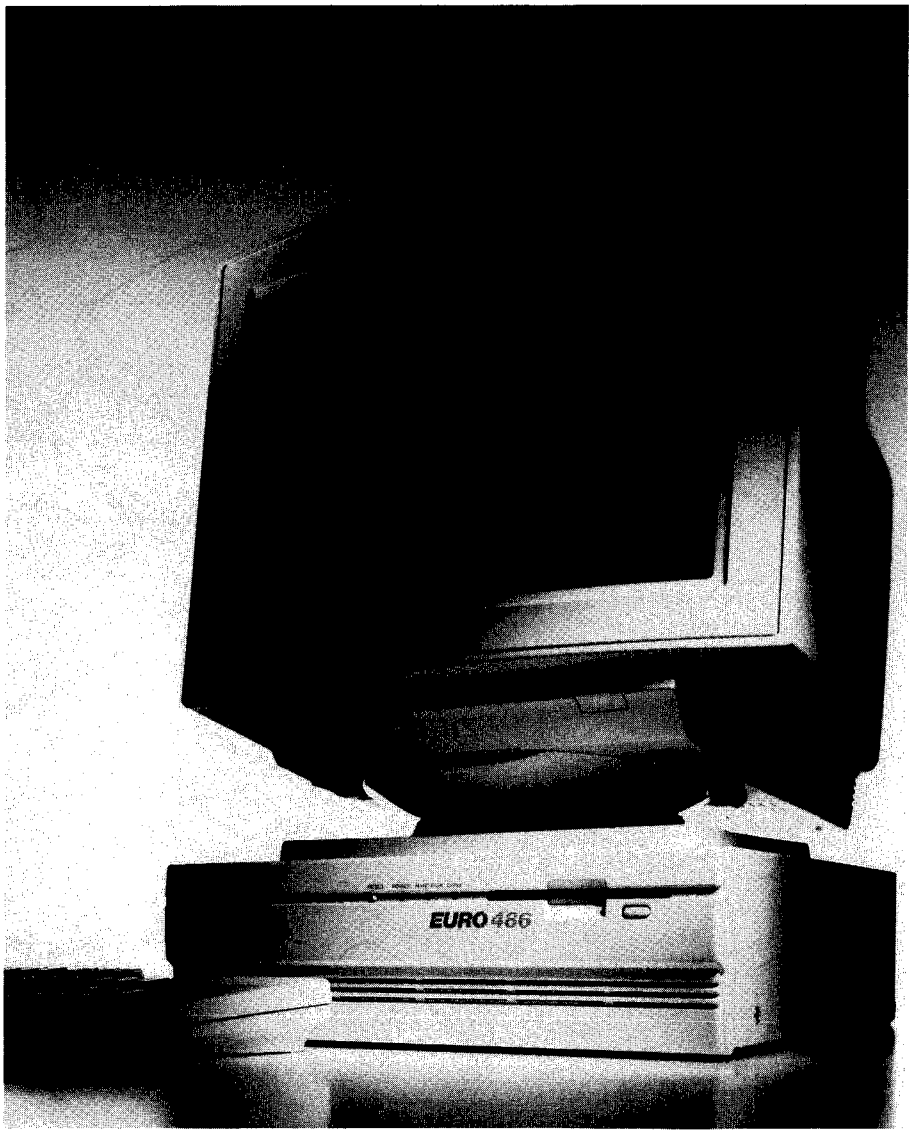
```
30h ;         screen believed running w/ video ROM
31h ;         monochromatic screen believed operable
32h ;         40-column color screen believed operable
33h ;         80-column color screen believed operable

The following codes are reported via DIAGNP and the speaker only if
MANLOOP EQU TRUE and the "manufacturing jumper" indicates loop on POST.
Otherwise, these errors are reported via the screen and POST continues.
Use of the manufacturing jumper requires working correctly configured CMOS.
34h ; 4-2-1   timer tick interrupt test in_progress or failure
35h ; 4-2-2   shutdown test in_progress or failure
36h ; 4-2-3   gate A20 failure
37h ; 4-2-4   unexpected interrupt in protected mode
38h ; 4-3-1   RAM test in_progress or failure above address 0FFFFh
3Ah ; 4-3-3   Interval timer channel 2 test in_progress or failure
3Bh ; 4-3-4   Time-Of-Day clock test in_progress or failure
3Ch ; 4-4-1   Serial port test test in_progress or failure
3Dh ; 4-4-2   Parallel port test test in_progress or failure
3Eh ; 4-4-3   Math Coprocessor test in_progress or failure
```

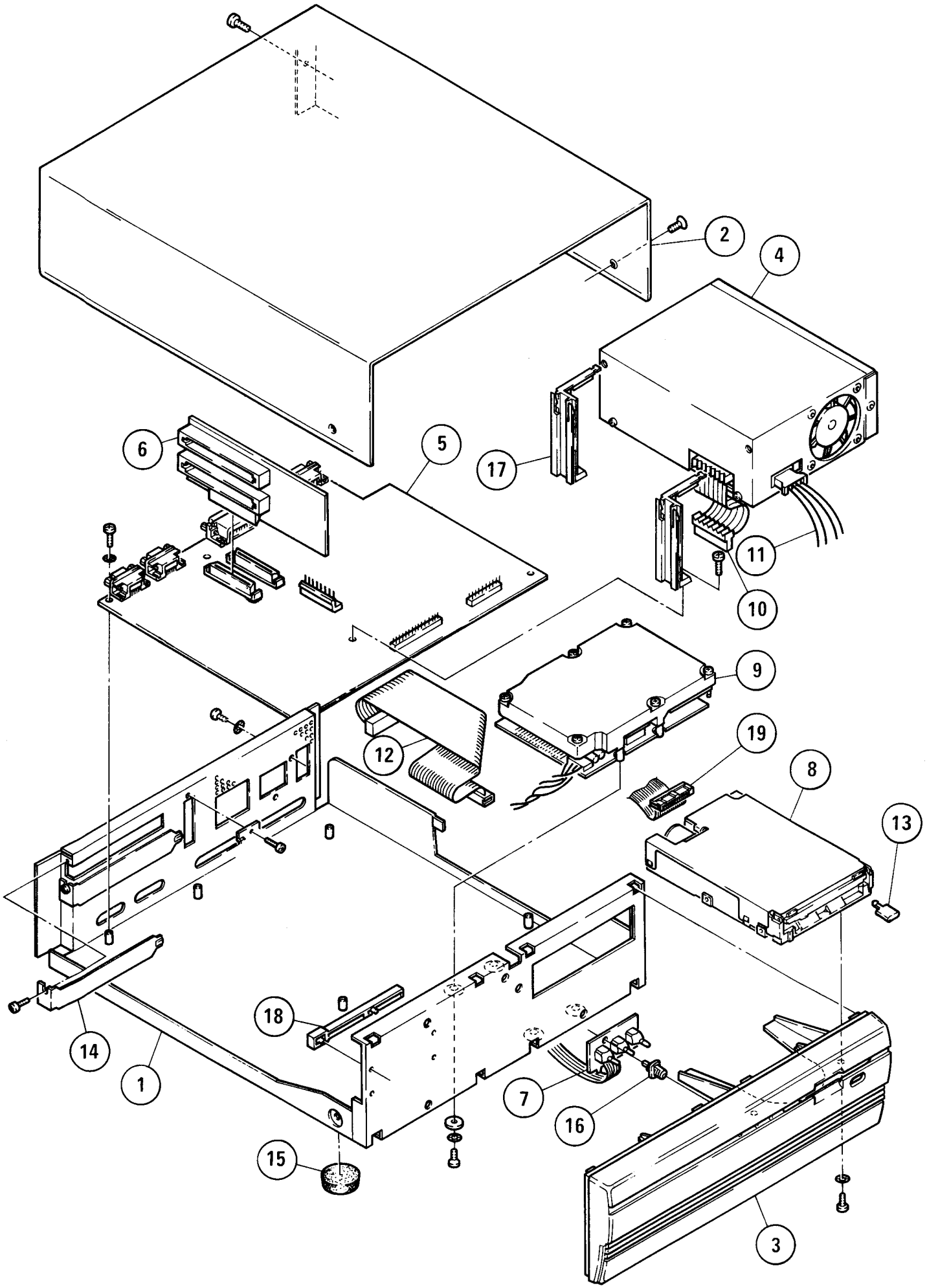
# Kundendienst-Handbuch
# Service manual

Schneider

## SYSTEMEINHEIT
## EURO 486 SX



# Exploded view



# Ersatzteilliste für Euro 486 SX HD 40/HD 90
# Parts list for Euro 486 SX HD 40/HD 90

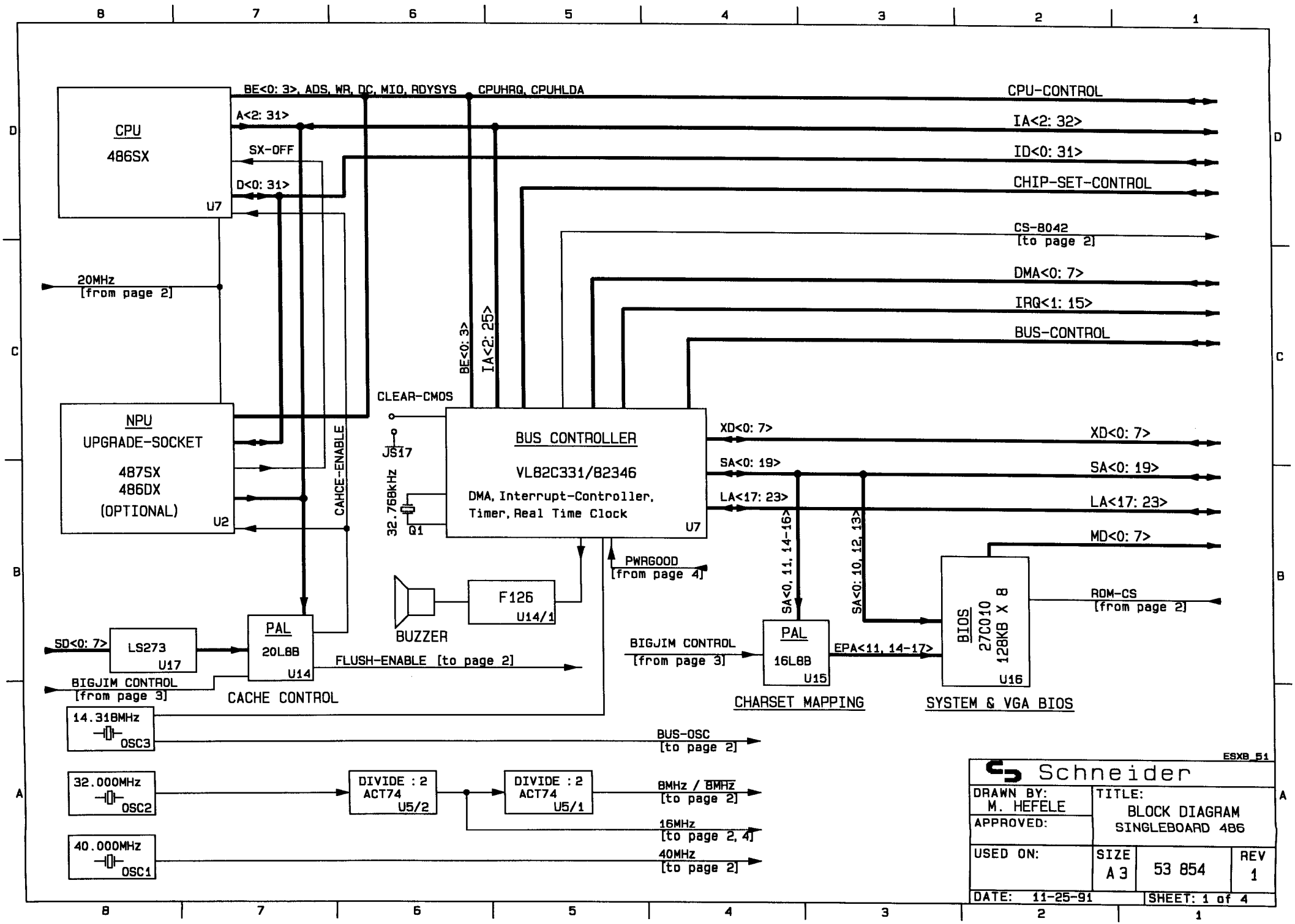
| Best.-Nr. Part.-No. | Bezeichnung | Description | Zeich.-Pos. Ref.-No. | Preisgruppe Price key |
|---|---|---|---|---|
| 51 451 00 | Styropor | Polyfoam | | C 1 |
| 51 452 00 | Faltkarton | Gift box | | C 0 |
| 51 290 00 | Gehäuseunterteil | Cabinet, bottom | 1 | D 4 |
| 52 628 00 | Gehäuseoberteil | Cabinet, top | 2 | D 2 |
| 54 088 00 | Frontblende | Front mask | 3 | C 3 |
| 54 018 00 | Netzteil Euro | Power supply | 4 | F 9 |
| 53 854 00 | Platine CPU 486 SX | P.C.B. CPU 486 SX | 5 | L 2 |
| 51 620 00 | Platine Steckplatz | P.C.B. slot | 6 | D 8 |
| 52 631 00 | Platine LED | P.C.B. LED | 7 | C 2 |
| 50 021 00 | Floppylaufwerk 1,44 MB | Floppy disk drive 1.44 MB | 8 | F 9 |
| 51 550 00 | HD-Laufwerk 40 MB | Hard disk drive 40 MB | 9 | J 4 |
| 54 042 00 | HD-Laufwerk 90 MB | Hard disk drive 90 MB | 9 | J 9 |
| 53 145 00 | Verbindungskabel, Netz-CPU | Cable, connection | 10 | C 1 |
| 51 458 00 | Adapterkabel HD 4pol. | Cable, adapter | 11 | B 4 |
| 53 338 00 | HD-Kabel | Cable, HDD | 12 | C 0 |
| 50 294 0ß0 | Druckknopf für FDD (Sony) | Pushbutton FDD (Sony) | 13 | A 5 |
| 50 020 00 | Blindblech | Plate, blind | 14 | A 6 |
| 51 456 00 | Gehäusefuß | Leg, cabinet | 15 | A 4 |
| 51 457 00 | Platinenhalter | Holder | 16 | A 3 |
| 51 262 00 | Führungsschiene Steckplatz | Guide rail, slot | 17 | A 6 |
| 52 612 00 | Führungsschiene Steckkarte | Guide rail, socket card | 18 | A 4 |
| 51 443 00 | Kabelbaum FDD | Cord, FDD | 19 | B 6 |
| 52 632 00 | Druckknopf Reset | Pushbutton Reset | | A 6 |
| 54 261 00 | Kabelbaum LED | Cord, LED | | B 1 |
| 53 885 00 | IC 80486 SX CPU | IC 80486 SX CPU | U 07 | J 2 |
| 53 891 00 | IC BIOS | IC BIOS | U 16 | E 6 |
| 52 873 00 | IC SIMM Modul 256K×36 80nS | IC SIMM Module 256K×36 80nS | U 26 | G 0 |
| 53 953 00 | IC SIMM Modul 1 M×36 70nS | IC SIMM Module 1 M×36 70nS | U 26 | I 0 |
| 53 233 00 | Tastatur (D) | Keyboard (D) | | F 6 |
| 53 234 00 | Tastatur (CH) | Keyboard (CH) | | F 6 |
| 53 235 00 | Tastatur (DK) | Keyboard (DK) | | F 6 |
| 53 236 00 | Tastatur (E) | Keyboard (E) | | F 6 |
| 53 237 00 | Tastatur (F) | Keyboard (F) | | F 6 |
| 53 238 00 | Tastatur (F) DUAL | Keyboard (F) DUAL | | F 6 |
| 53 239 00 | Tastatur (I) | Keyboard (I) | | F 6 |
| 53 240 00 | Tastatur (N) | Keyboard (N) | | F 6 |
| 53 241 00 | Tastatur (P) | Keyboard (P) | | F 6 |
| 53 242 00 | Tastatur (S/SF) | Keyboard (S/SF) | | F 6 |
| 53 243 00 | Tastatur (GR) | Keyboard (GR) | | F 6 |
| 53 244 00 | Tastatur (GB) | Keyboard (GB) | | F 6 |
| 53 245 00 | Tastatur (SU) | Keyboard (SU) | | F 6 |

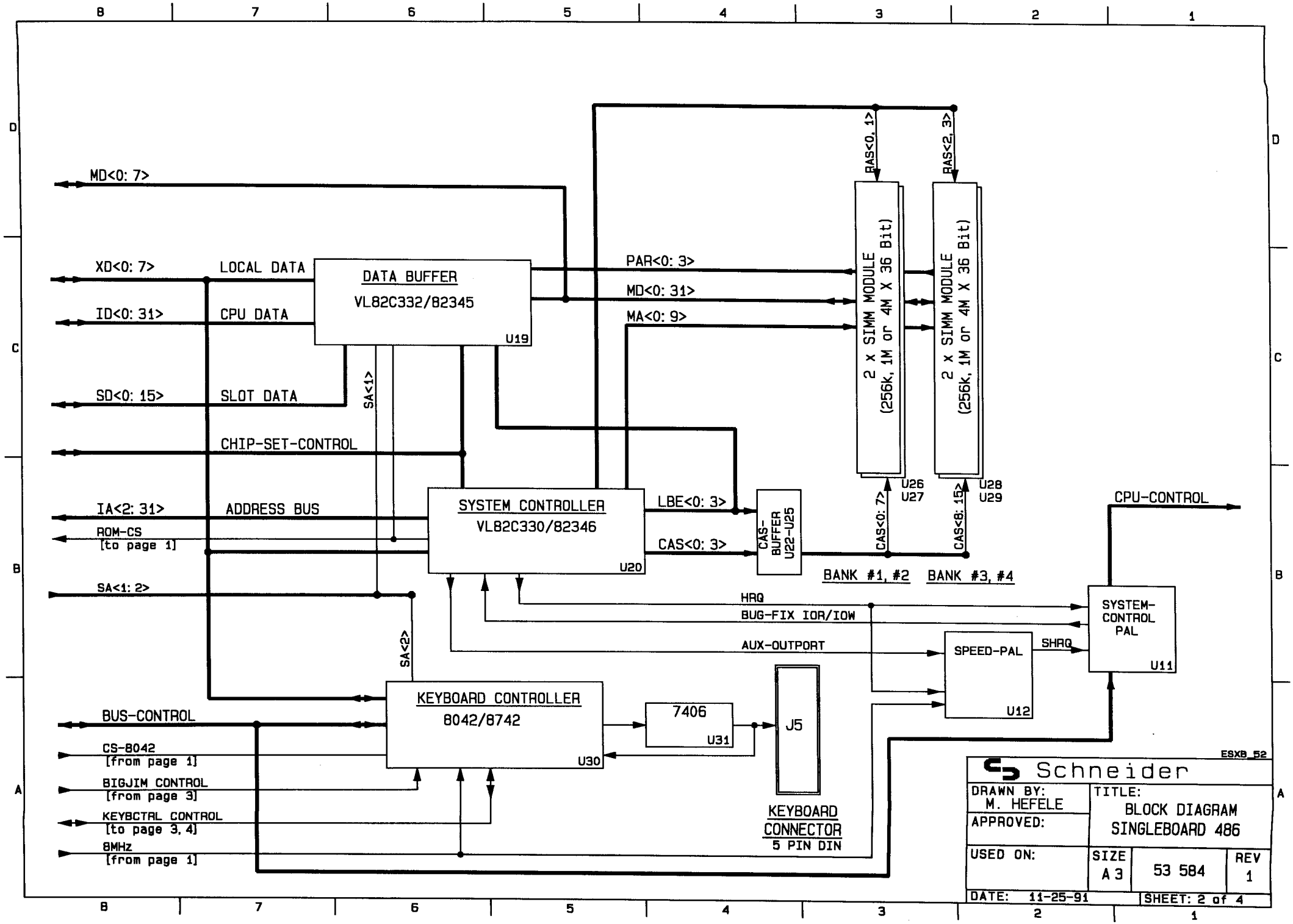
## Reparaturpauschale/Repair all-inclusive price

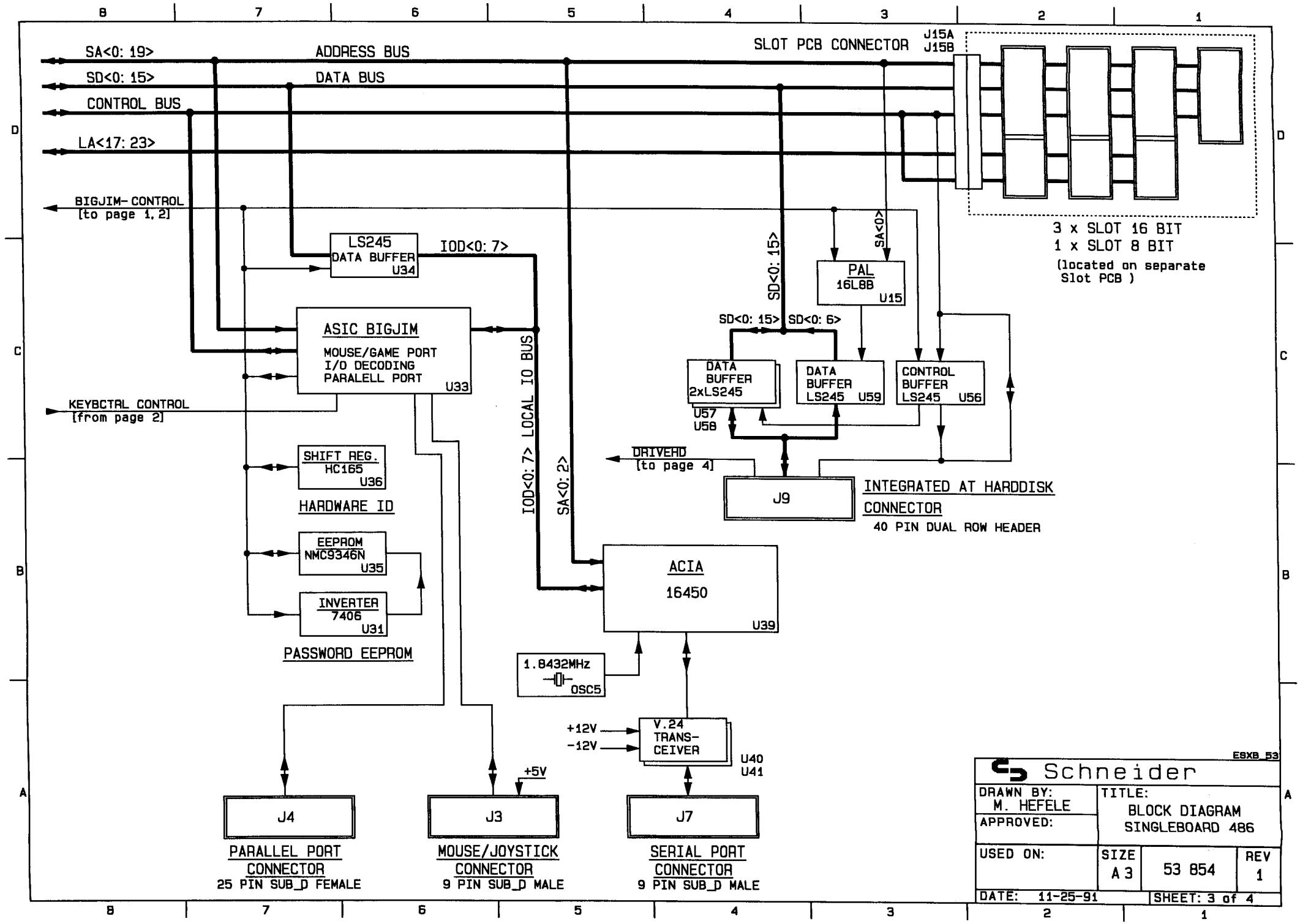
| | | | | |
|---|---|---|---|---|
| 53 854 00 | Platine CPU 486 SX | P.C.B. CPU 486 SX | 5 | H 4 |

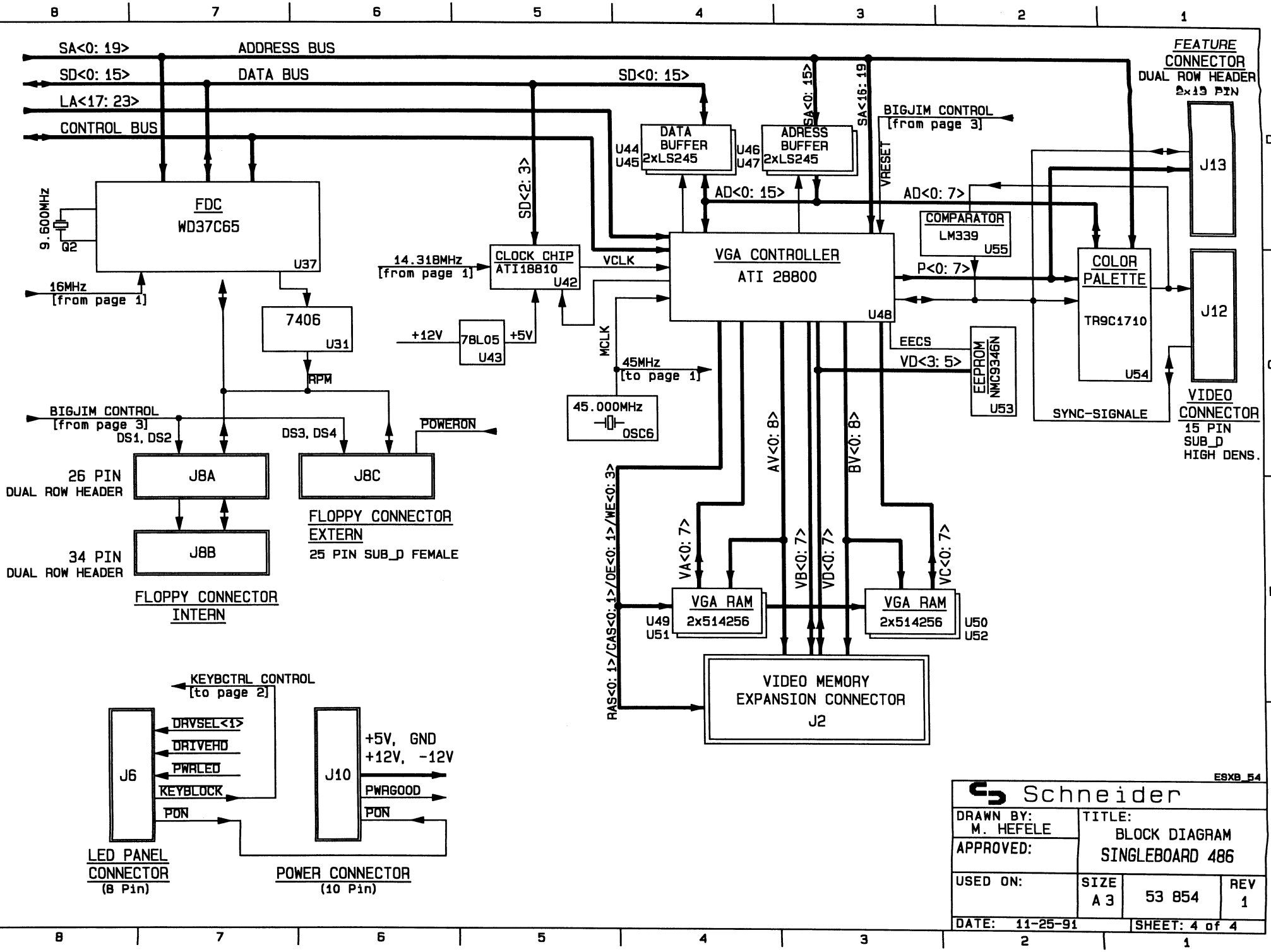
**Note:** All spare parts with countryindex are reserved for foreign distributors only.

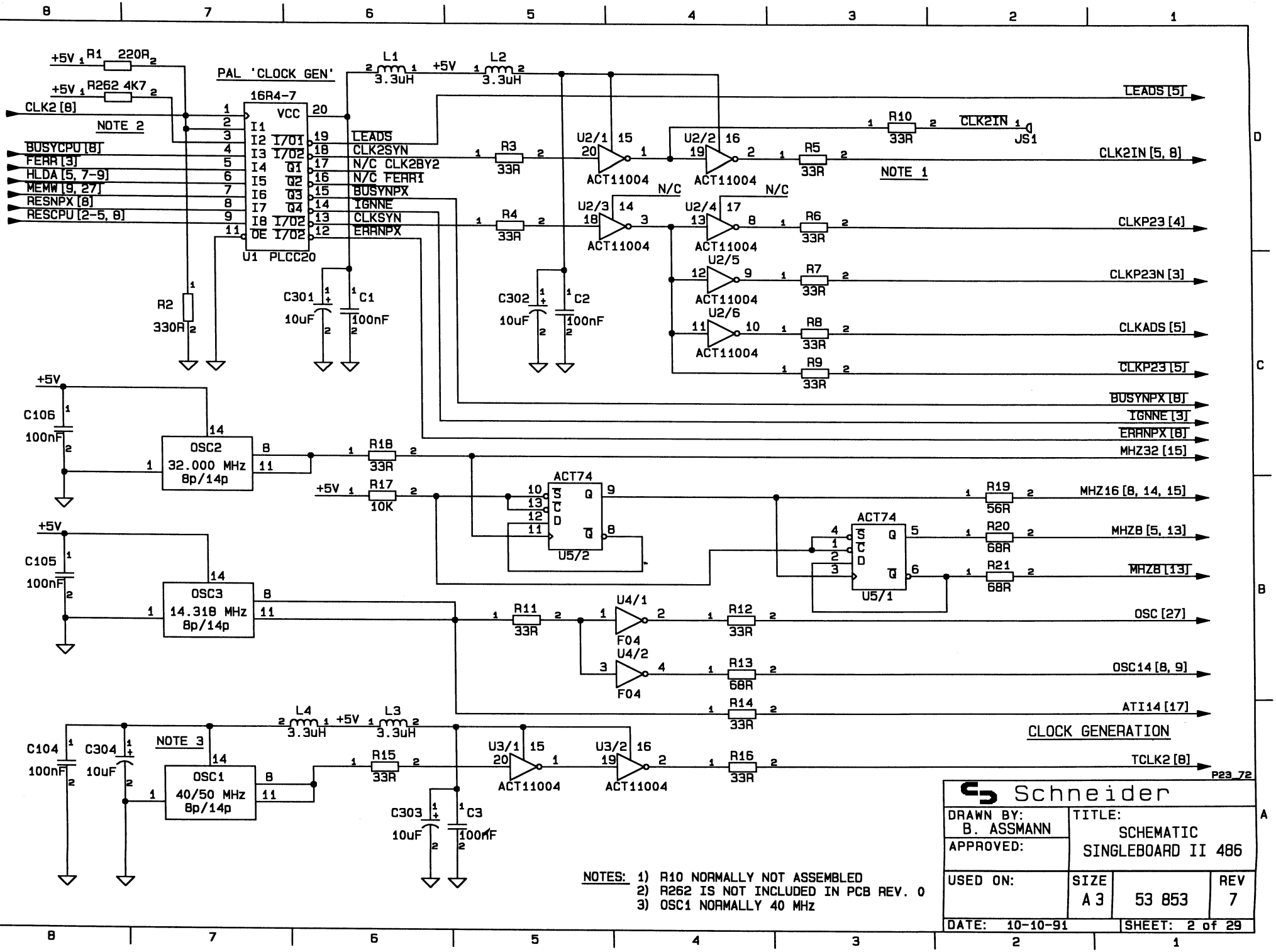
All 3.5″ and 5.25″ floppydisks must be replaced by new ones. Schneider passes no exchange price to the distributor or dealer.

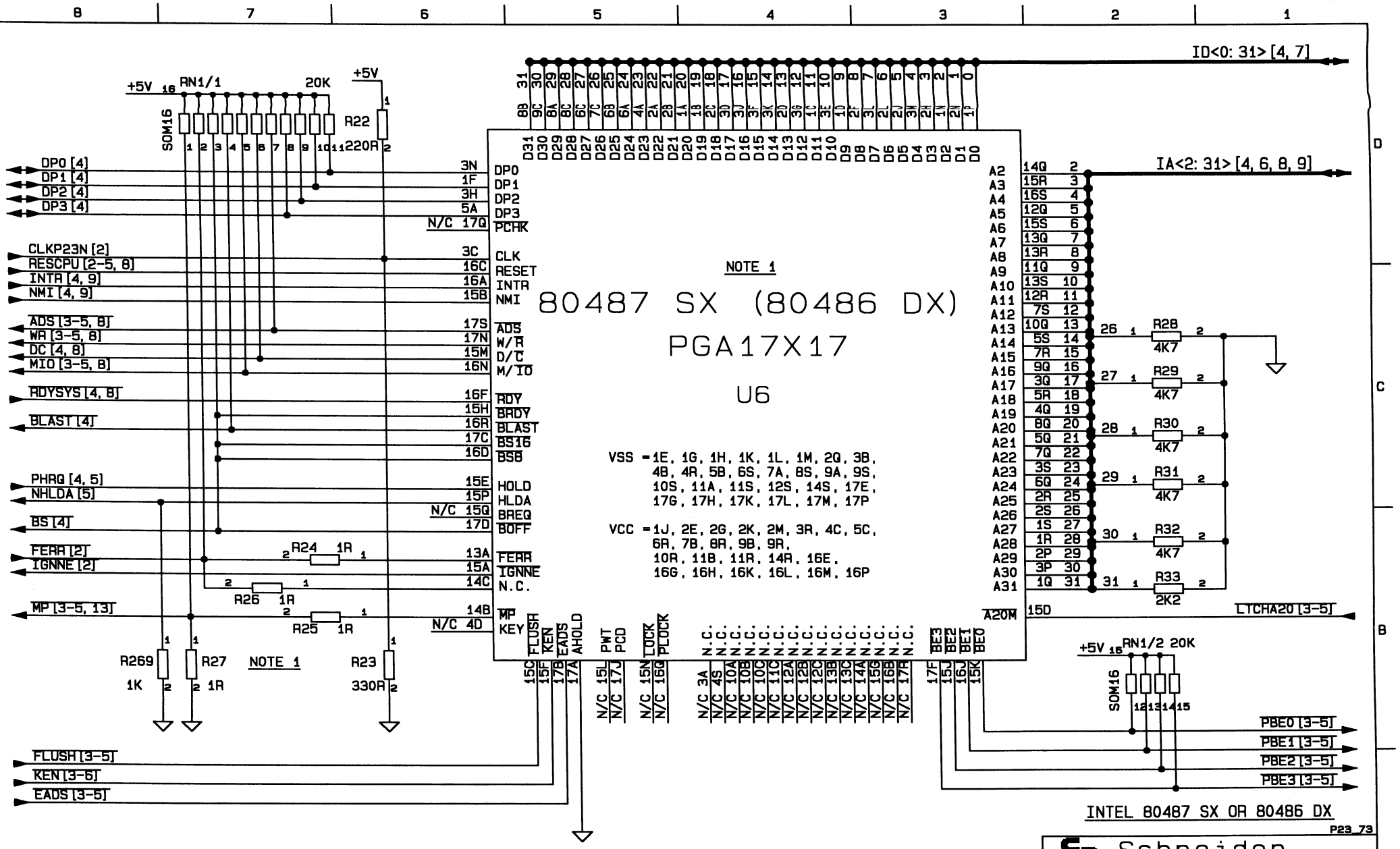

CPU
486SX
U7
BE<0: 3>, ADS, WR, DC, MIO, RDYSYS
CPUHRQ, CPUHLDA
A<2: 31>
SX-OFF
D<0: 31>
CPU-CONTROL
IA<2: 32>
ID<0: 31>
CHIP-SET-CONTROL
CS-8042
[to page 2]
DMA<0: 7>
IRQ<1: 15>
BUS-CONTROL
20MHz
[from page 2]
BE<0: 3>
IA<2: 25>
CLEAR-CMOS
NPU
UPGRADE-SOCKET
487SX
486DX
(OPTIONAL)
U2
CAHCE-ENABLE
JS17
32.768kHz
Q1
BUS CONTROLLER
VL82C331/82346
DMA, Interrupt-Controller,
Timer, Real Time Clock
U7
XD<0: 7>
SA<0: 19>
LA<17: 23>
MD<0: 7>
PWRGOOD
[from page 4]
F126
U14/1
BUZZER
SA<0, 11, 14-16>
SA<0: 10, 12, 13>
BIOS
27C010
128KB X 8
U16
ROM-CS
[from page 2]
SD<0: 7>
LS273
U17
PAL
20L8B
U14
FLUSH-ENABLE [to page 2]
BIGJIM CONTROL
[from page 3]
CACHE CONTROL
BIGJIM CONTROL
[from page 3]
PAL
16L8B
U15
EPA<11, 14-17>
CHARSET MAPPING
SYSTEM & VGA BIOS
14.318MHz
OSC3
BUS-OSC
[to page 2]
32.000MHz
OSC2
DIVIDE : 2
ACT74
U5/2
DIVIDE : 2
ACT74
U5/1
8MHz / 8MHz
[to page 2]
16MHz
[to page 2, 4]
40.000MHz
OSC1
40MHz
[to page 2]
ESXB 51
Schneider
DRAWN BY:
M. HEFELE
APPROVED:
TITLE:
BLOCK DIAGRAM
SINGLEBOARD 486
USED ON:
SIZE
A 3
53 854
REV
1
DATE: 11-25-91
SHEET: 1 of 4


MD<0: 7>
XD<0: 7>
LOCAL DATA
ID<0: 31>
CPU DATA
DATA BUFFER
VL82C332/82345
U19
SD<0: 15>
SLOT DATA
SA<1>
CHIP-SET-CONTROL
IA<2: 31>
ADDRESS BUS
ROM-CS
[to page 1]
SA<1: 2>
SA<2>
SYSTEM CONTROLLER
VL82C330/82346
U20
LBE<0: 3>
CAS<0: 3>
CAS-BUFFER U22-U25
PAR<0: 3>
MD<0: 31>
MA<0: 9>
RAS<0, 1>
RAS<2, 3>
2 x SIMM MODULE (256k, 1M or 4M X 36 Bit)
2 x SIMM MODULE (256k, 1M or 4M X 36 Bit)
U26
U27
U28
U29
CAS<0: 7>
CAS<8: 15>
BANK #1, #2
BANK #3, #4
CPU-CONTROL
HRQ
BUG-FIX IOR/IOW
AUX-OUTPORT
SPEED-PAL
U12
SHRQ
SYSTEM-CONTROL PAL
U11
KEYBOARD CONTROLLER
8042/8742
U30
7406
U31
J5
KEYBOARD CONNECTOR
5 PIN DIN
BUS-CONTROL
CS-8042
[from page 1]
BIGJIM CONTROL
[from page 3]
KEYBCTRL CONTROL
[to page 3, 4]
8MHz
[from page 1]
ESXB_52
Schneider
DRAWN BY: M. HEFELE
APPROVED:
USED ON:
TITLE: BLOCK DIAGRAM SINGLEBOARD 486
SIZE A 3
53 584
REV 1
DATE: 11-25-91
SHEET: 2 of 4


SA<0: 19>
ADDRESS BUS
SD<0: 15>
DATA BUS
CONTROL BUS
LA<17: 23>
SLOT PCB CONNECTOR
J15A
J15B
3 x SLOT 16 BIT
1 x SLOT 8 BIT
(located on separate Slot PCB )
BIGJIM- CONTROL
[to page 1, 2]
LS245
DATA BUFFER
U34
IOD<0: 7>
PAL
16L8B
U15
SA<0>
SD<0: 15>
SD<0: 15>
SD<0: 6>
ASIC BIGJIM
MOUSE/GAME PORT
I/O DECODING
PARALELL PORT
U33
DATA BUFFER
2xLS245
U57
U58
DATA BUFFER
LS245 U59
CONTROL BUFFER
LS245 U56
KEYBCTRL CONTROL
[from page 2]
IOD<0: 7> LOCAL IO BUS
SA<0: 2>
DRIVEHD
[to page 4]
J9
INTEGRATED AT HARDDISK
CONNECTOR
40 PIN DUAL ROW HEADER
SHIFT REG.
HC165
U36
HARDWARE ID
EEPROM
NMC9346N
U35
INVERTER
7406
U31
PASSWORD EEPROM
ACIA
16450
U39
1.8432MHz
OSC5
+12V
-12V
V.24
TRANS-
CEIVER
U40
U41
+5V
J4
J3
J7
PARALLEL PORT
CONNECTOR
25 PIN SUB_D FEMALE
MOUSE/JOYSTICK
CONNECTOR
9 PIN SUB_D MALE
SERIAL PORT
CONNECTOR
9 PIN SUB_D MALE
ESXB_53
Schneider
DRAWN BY:
M. HEFELE
APPROVED:
TITLE:
BLOCK DIAGRAM
SINGLEBOARD 486
USED ON:
SIZE
A 3
53 854
REV
1
DATE: 11-25-91
SHEET: 3 of 4

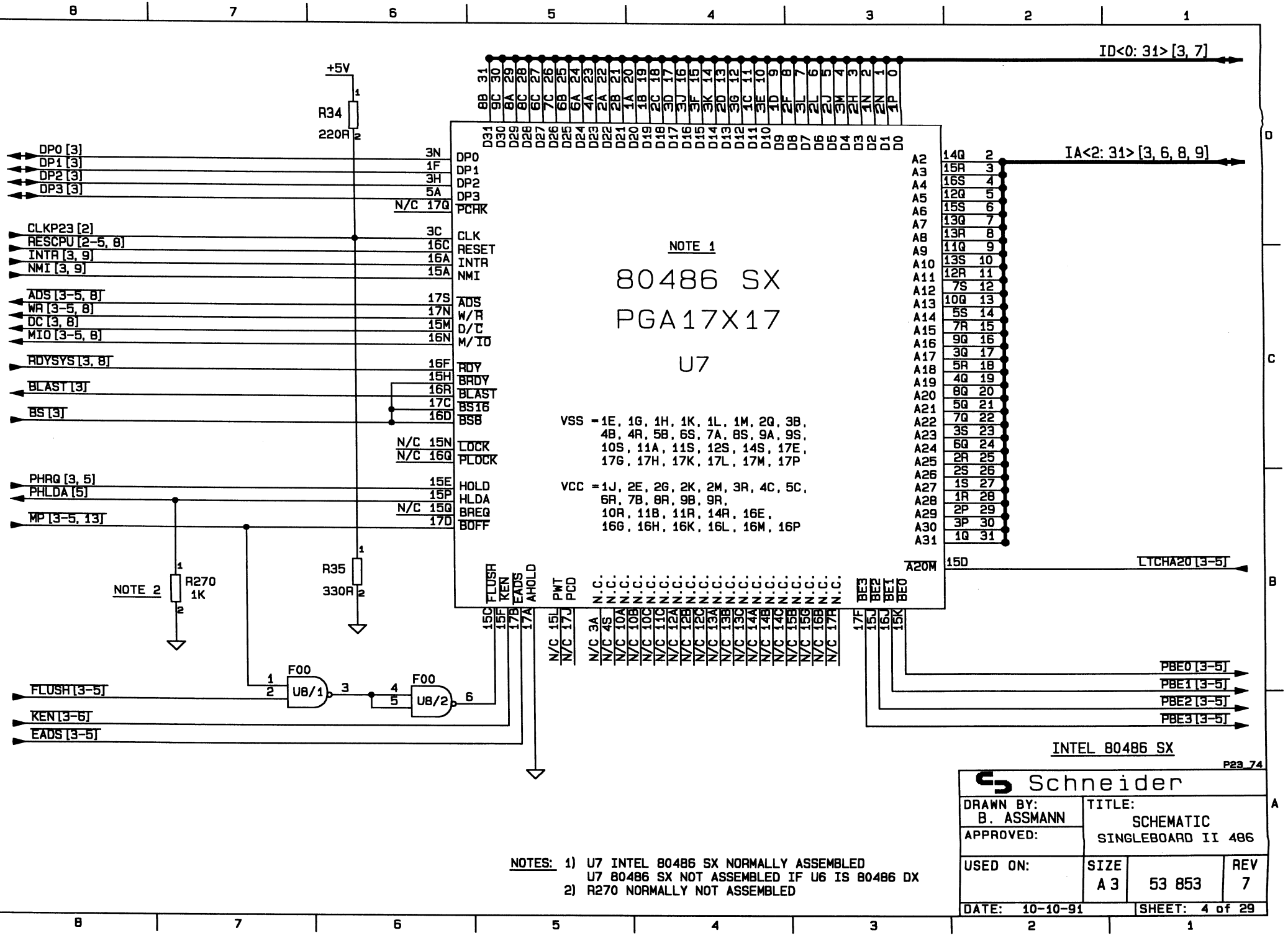

SA<0: 19>
ADDRESS BUS
SD<0: 15>
DATA BUS
LA<17: 23>
CONTROL BUS
SD<0: 15>
SA<0: 15>
SA<16: 19>
FEATURE CONNECTOR
DUAL ROW HEADER
2x19 PIN
BIGJIM CONTROL
[from page 3]
VRESET
J13
DATA BUFFER
U44
U45
2xLS245
U46
U47
ADRESS BUFFER
2xLS245
AD<0: 15>
AD<0: 7>
SD<2: 3>
9.600MHz
Q2
FDC
WD37C65
U37
COMPARATOR
LM339
U55
14.318MHz
[from page 1]
CLOCK CHIP
ATI18810
U42
VCLK
VGA CONTROLLER
ATI 28800
U48
P<0: 7>
COLOR PALETTE
TR9C1710
U54
J12
16MHz
[from page 1]
7406
U31
+12V
78L05
U43
+5V
MCLK
EECS
VD<3: 5>
EEPROM
NMC9346N
U53
RPM
45MHz
[to page 1]
45.000MHz
OSC6
SYNC-SIGNALE
VIDEO CONNECTOR
15 PIN
SUB_D
HIGH DENS.
BIGJIM CONTROL
[from page 3]
DS1, DS2
DS3, DS4
POWERON
26 PIN
DUAL ROW HEADER
J8A
J8C
FLOPPY CONNECTOR
EXTERN
25 PIN SUB_D FEMALE
34 PIN
DUAL ROW HEADER
J8B
FLOPPY CONNECTOR
INTERN
AV<0: 8>
BV<0: 8>
VA<0: 7>
VB<0: 7>
VD<0: 7>
VC<0: 7>
RAS<0: 1>/CAS<0: 1>/OE<0: 1>/WE<0: 3>
VGA RAM
2x514256
U49
U51
VGA RAM
2x514256
U50
U52
VIDEO MEMORY
EXPANSION CONNECTOR
J2
KEYBCTRL CONTROL
[to page 2]
J6
DRVSEL<1>
DRIVEHD
PWRLED
KEYBLOCK
PON
J10
+5V, GND
+12V, -12V
PWRGOOD
PON
LED PANEL
CONNECTOR
(8 Pin)
POWER CONNECTOR
(10 Pin)
ESXB_54
Schneider
DRAWN BY:
M. HEFELE
APPROVED:
TITLE:
BLOCK DIAGRAM
SINGLEBOARD 486
USED ON:
SIZE
A 3
53 854
REV
1
DATE: 11-25-91
SHEET: 4 of 4

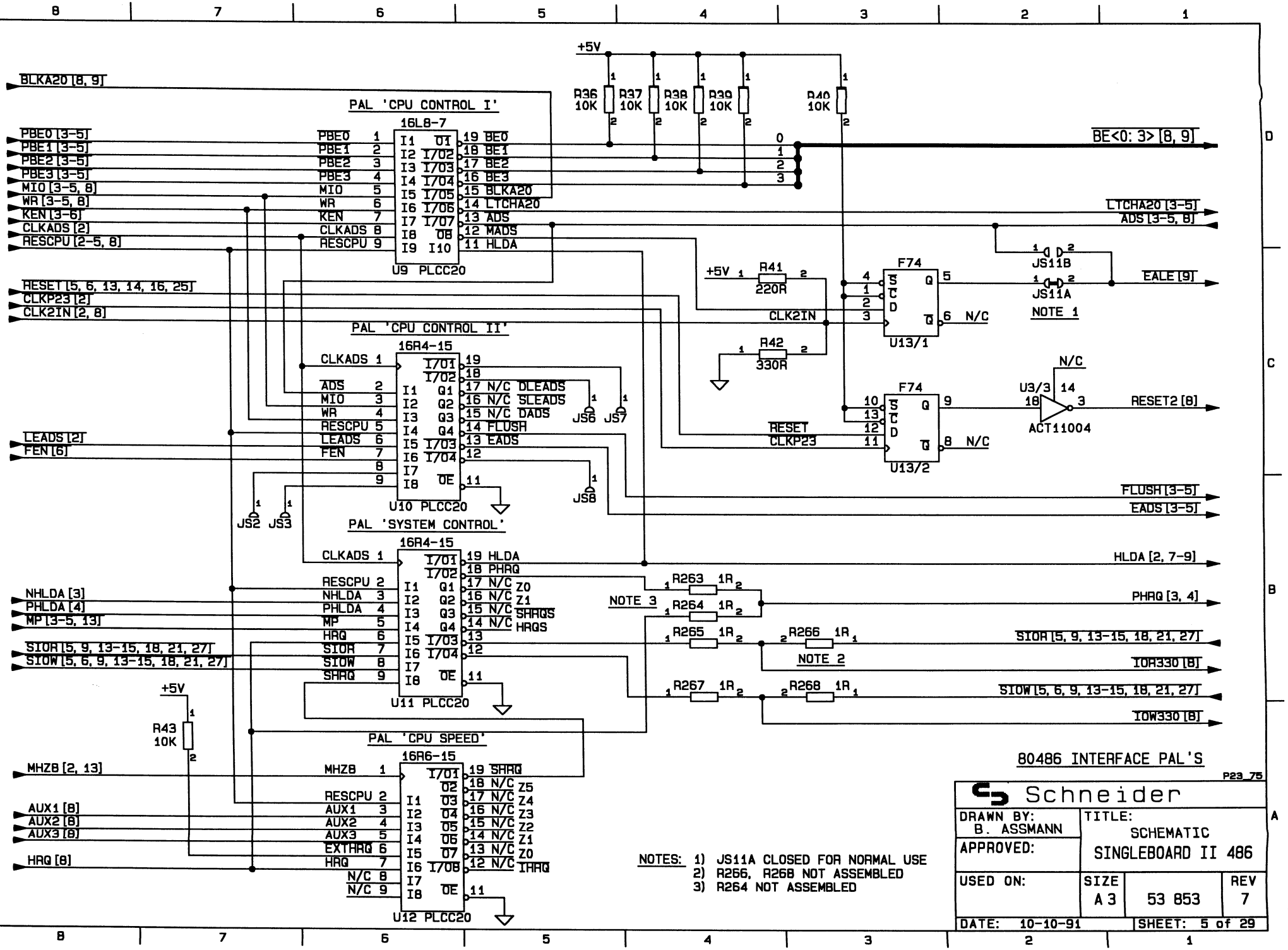

PAL 'CLOCK GEN'
16R4-7
U1 PLCC20
NOTE 1
NOTE 2
NOTE 3
CLK2 [8]
BUSYCPU [8]
FERR [3]
HLDA [5, 7-9]
MEMW [9, 27]
RESNPX [8]
RESCPU [2-5, 8]
LEADS
CLK2SYN
N/C CLK2BY2
N/C FERR1
BUSYNPX
IGNNE
CLKSYN
ERRNPX
LEADS [5]
CLK2IN [5, 8]
CLKP23 [4]
CLKP23N [3]
CLKADS [5]
CLKP23 [5]
BUSYNPX [8]
IGNNE [3]
ERRNPX [8]
MHZ32 [15]
MHZ16 [8, 14, 15]
MHZ8 [5, 13]
MHZ8 [13]
OSC [27]
OSC14 [8, 9]
ATI14 [17]
TCLK2 [8]
P23_72
CLK2IN
JS1
ACT11004
ACT74
F04
OSC2
32.000 MHz
8p/14p
OSC3
14.318 MHz
8p/14p
OSC1
40/50 MHz
8p/14p
+5V
N/C
U5/1
U5/2
CLOCK GENERATION
NOTES: 1) R10 NORMALLY NOT ASSEMBLED
2) R262 IS NOT INCLUDED IN PCB REV. 0
3) OSC1 NORMALLY 40 MHz
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD II 486
USED ON:
SIZE A 3
53 853
REV 7
DATE: 10-10-91
SHEET: 2 of 29

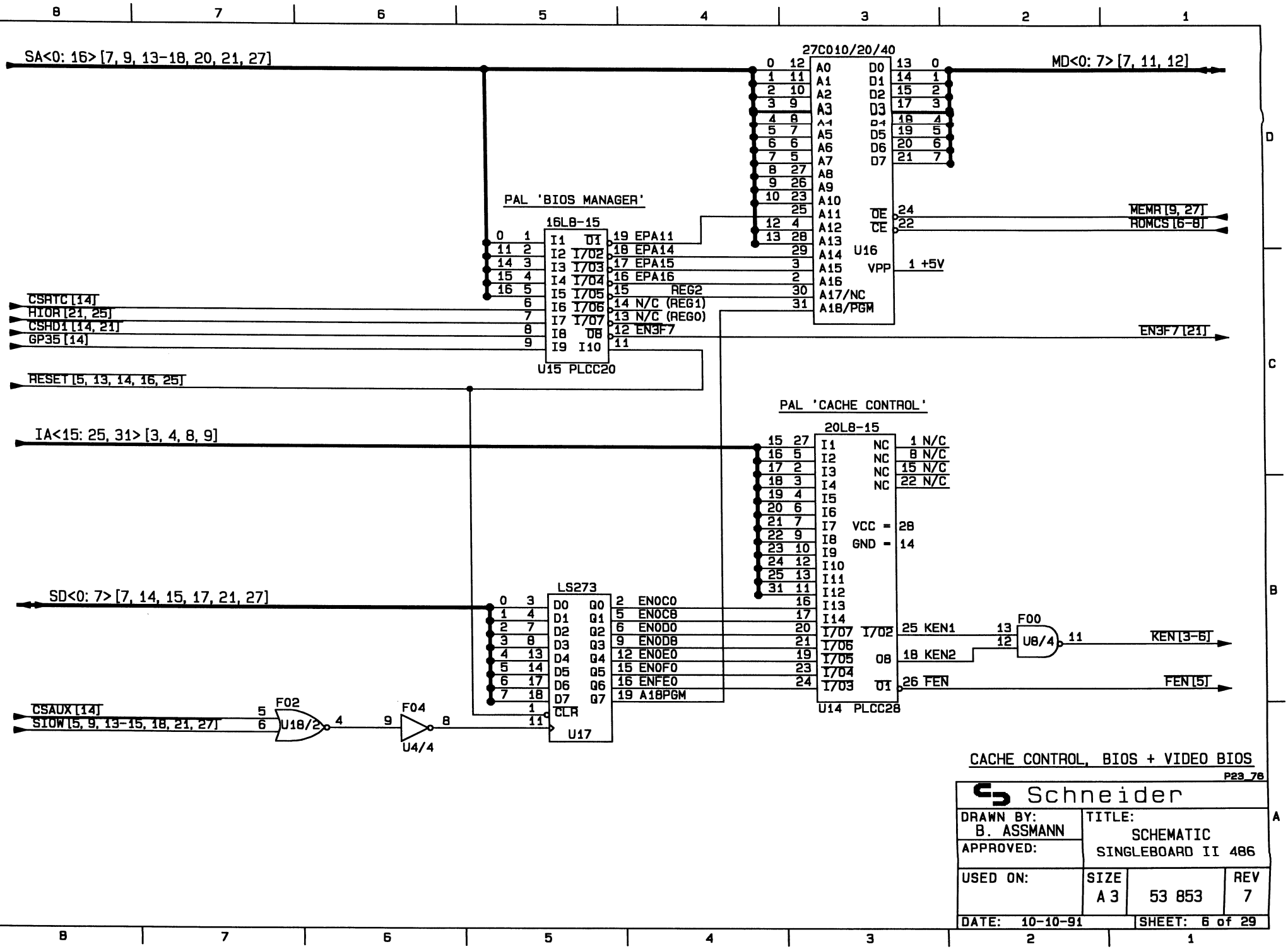



NOTES: 1) R24 AND R25 ARE ASSEMBLED IF U7 INTEL 80486 SX IS INSERTED
R24 AND R25 ARE ASSEMBLED IF U6 INTEL 80487 SX IS INSERTED
R26 AND R27 ARE ASSEMBLED IF U6 INTEL 80486 DX IS INSERTED

| | | | |
|---|---|---|---|
| Schneider | | | |
| DRAWN BY: B. ASSMANN | TITLE: SCHEMATIC SINGLEBOARD II 486 | | |
| APPROVED: | | | |
| USED ON: | SIZE A 3 | 53 853 | REV 7 |
| DATE: 10-10-91 | SHEET: 3 of 29 | | |


ID<0: 31> [3, 7]
IA<2: 31> [3, 6, 8, 9]
+5V
R34
220R
NOTE 1
80486 SX
PGA17X17
U7
VSS = 1E, 1G, 1H, 1K, 1L, 1M, 2Q, 3B, 4B, 4R, 5B, 6S, 7A, 8S, 9A, 9S, 10S, 11A, 11S, 12S, 14S, 17E, 17G, 17H, 17K, 17L, 17M, 17P
VCC = 1J, 2E, 2G, 2K, 2M, 3R, 4C, 5C, 6R, 7B, 8R, 9B, 9R, 10R, 11B, 11R, 14R, 16E, 16G, 16H, 16K, 16L, 16M, 16P
DP0 [3]
DP1 [3]
DP2 [3]
DP3 [3]
CLKP23 [2]
RESCPU [2-5, 8]
INTR [3, 9]
NMI [3, 9]
ADS [3-5, 8]
WR [3-5, 8]
DC [3, 8]
MIO [3-5, 8]
RDYSYS [3, 8]
BLAST [3]
BS [3]
PHRQ [3, 5]
PHLDA [5]
MP [3-5, 13]
NOTE 2
R270
1K
R35
330R
F00
U8/1
U8/2
FLUSH [3-5]
KEN [3-5]
EADS [3-5]
LTCHA20 [3-5]
PBE0 [3-5]
PBE1 [3-5]
PBE2 [3-5]
PBE3 [3-5]
INTEL 80486 SX
P23_74
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
USED ON:
TITLE: SCHEMATIC SINGLEBOARD II 486
SIZE A 3
53 853
REV 7
DATE: 10-10-91
SHEET: 4 of 29
NOTES: 1) U7 INTEL 80486 SX NORMALLY ASSEMBLED
U7 80486 SX NOT ASSEMBLED IF U6 IS 80486 DX
2) R270 NORMALLY NOT ASSEMBLED

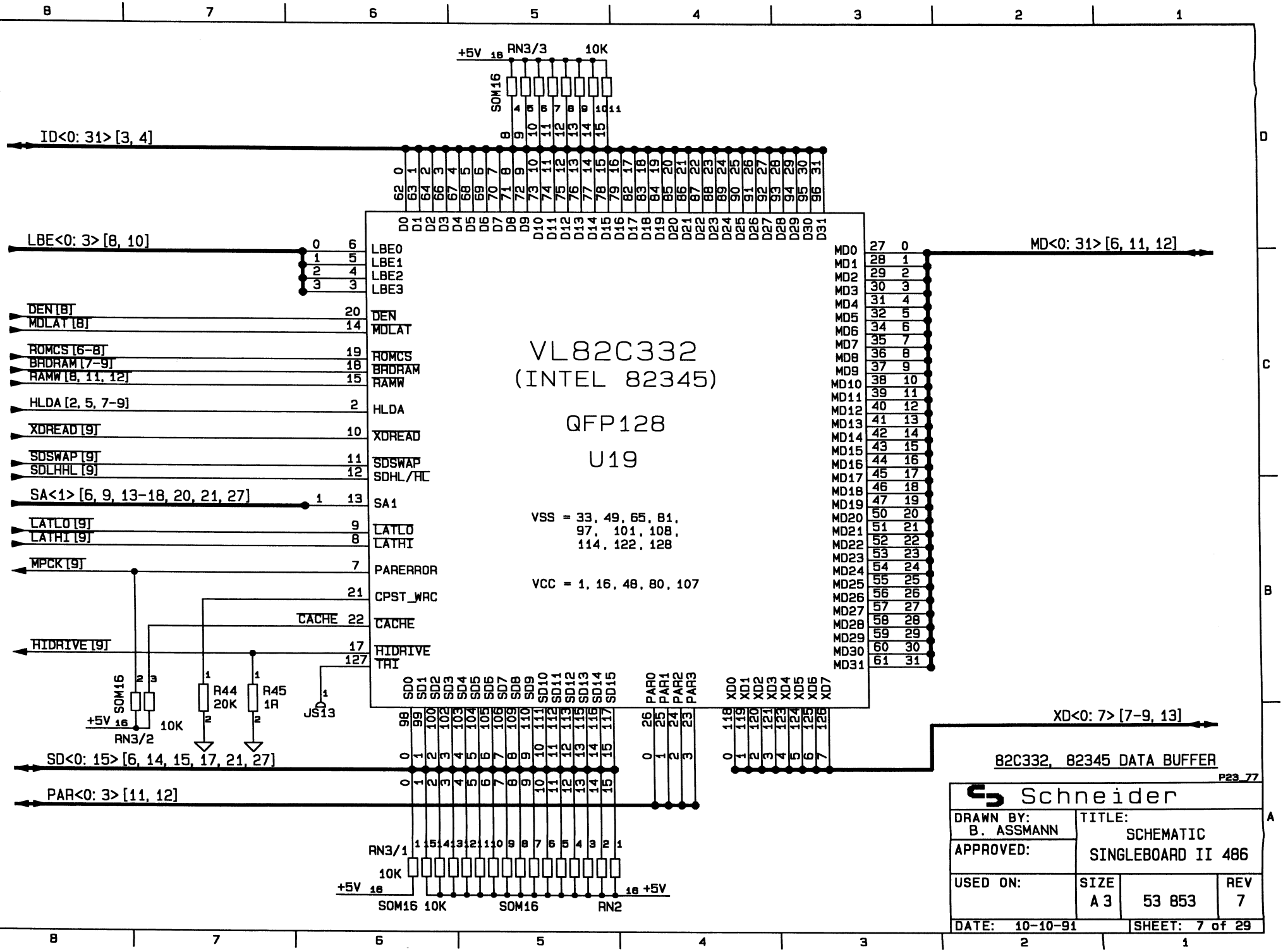

BLKA20 [8, 9]
PAL 'CPU CONTROL I'
16L8-7
PBE0 [3-5]
PBE1 [3-5]
PBE2 [3-5]
PBE3 [3-5]
MIO [3-5, 8]
WR [3-5, 8]
KEN [3-6]
CLKADS [2]
RESCPU [2-5, 8]
PBE0 1
PBE1 2
PBE2 3
PBE3 4
MIO 5
WR 6
KEN 7
CLKADS 8
RESCPU 9
I1 O1 19 BE0
I2 I/O2 18 BE1
I3 I/O3 17 BE2
I4 I/O4 16 BE3
I5 I/O5 15 BLKA20
I6 I/O6 14 LTCHA20
I7 I/O7 13 ADS
I8 O8 12 MADS
I9 I10 11 HLDA
U9 PLCC20
+5V
R36 10K
R37 10K
R38 10K
R39 10K
R40 10K
0
1
2
3
BE<0: 3> [8, 9]
LTCHA20 [3-5]
ADS [3-5, 8]
RESET [5, 6, 13, 14, 16, 25]
CLKP23 [2]
CLK2IN [2, 8]
PAL 'CPU CONTROL II'
16R4-15
CLKADS 1
ADS 2
MIO 3
WR 4
RESCPU 5
LEADS 6
FEN 7
8
9
I1 Q1 17 N/C DLEADS
I2 Q2 16 N/C SLEADS
I3 Q3 15 N/C DADS
I4 Q4 14 FLUSH
I5 I/O3 13 EADS
I6 I/O4 12
I7
I8 OE 11
I/O1 19
I/O2 18
U10 PLCC20
JS2 JS3 JS6 JS7 JS8
LEADS [2]
FEN [6]
FLUSH [3-5]
EADS [3-5]
PAL 'SYSTEM CONTROL'
16R4-15
CLKADS 1
RESCPU 2
NHLDA [3]
PHLDA [4]
MP [3-5, 13]
HRQ 6
SIOR 7
SIOW 8
SHRQ 9
I1 Q1 17 N/C Z0
I2 Q2 16 N/C Z1
I3 Q3 15 N/C SHRQS
I4 Q4 14 N/C HRQS
I5 I/O3 13
I6 I/O4 12
I7
I8 OE 11
I/O1 19 HLDA
I/O2 18 PHRQ
U11 PLCC20
SIOR [5, 9, 13-15, 18, 21, 27]
SIOW [5, 6, 9, 13-15, 18, 21, 27]
HLDA [2, 7-9]
PHRQ [3, 4]
NOTE 3
R263 1R
R264 1R
R265 1R
R266 1R
R267 1R
R268 1R
NOTE 2
SIOR [5, 9, 13-15, 18, 21, 27]
IOR330 [8]
SIOW [5, 6, 9, 13-15, 18, 21, 27]
IOW330 [8]
+5V
R43 10K
PAL 'CPU SPEED'
16R6-15
MHZ8 [2, 13]
AUX1 [8]
AUX2 [8]
AUX3 [8]
HRQ [8]
MHZ8 1
RESCPU 2
AUX1 3
AUX2 4
AUX3 5
EXTHRQ 6
HRQ 7
N/C 8
N/C 9
I1 O3 17 N/C Z4
I2 O4 16 N/C Z3
I3 O5 15 N/C Z2
I4 O6 14 N/C Z1
I5 O7 13 N/C Z0
I6 I/O8 12 N/C IHRQ
I7
I8 OE 11
I/O1 19 SHRQ
O2 18 N/C Z5
U12 PLCC20
+5V
R41 220R
R42 330R
CLK2IN
RESET
CLKP23
F74
U13/1
U13/2
JS11B
JS11A
EALE [9]
NOTE 1
N/C
U3/3
ACT11004
RESET2 [8]
80486 INTERFACE PAL'S
P23_75
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
USED ON:
TITLE: SCHEMATIC
SINGLEBOARD II 486
SIZE A 3
53 853
REV 7
DATE: 10-10-91
SHEET: 5 of 29
NOTES: 1) JS11A CLOSED FOR NORMAL USE
2) R266, R268 NOT ASSEMBLED
3) R264 NOT ASSEMBLED

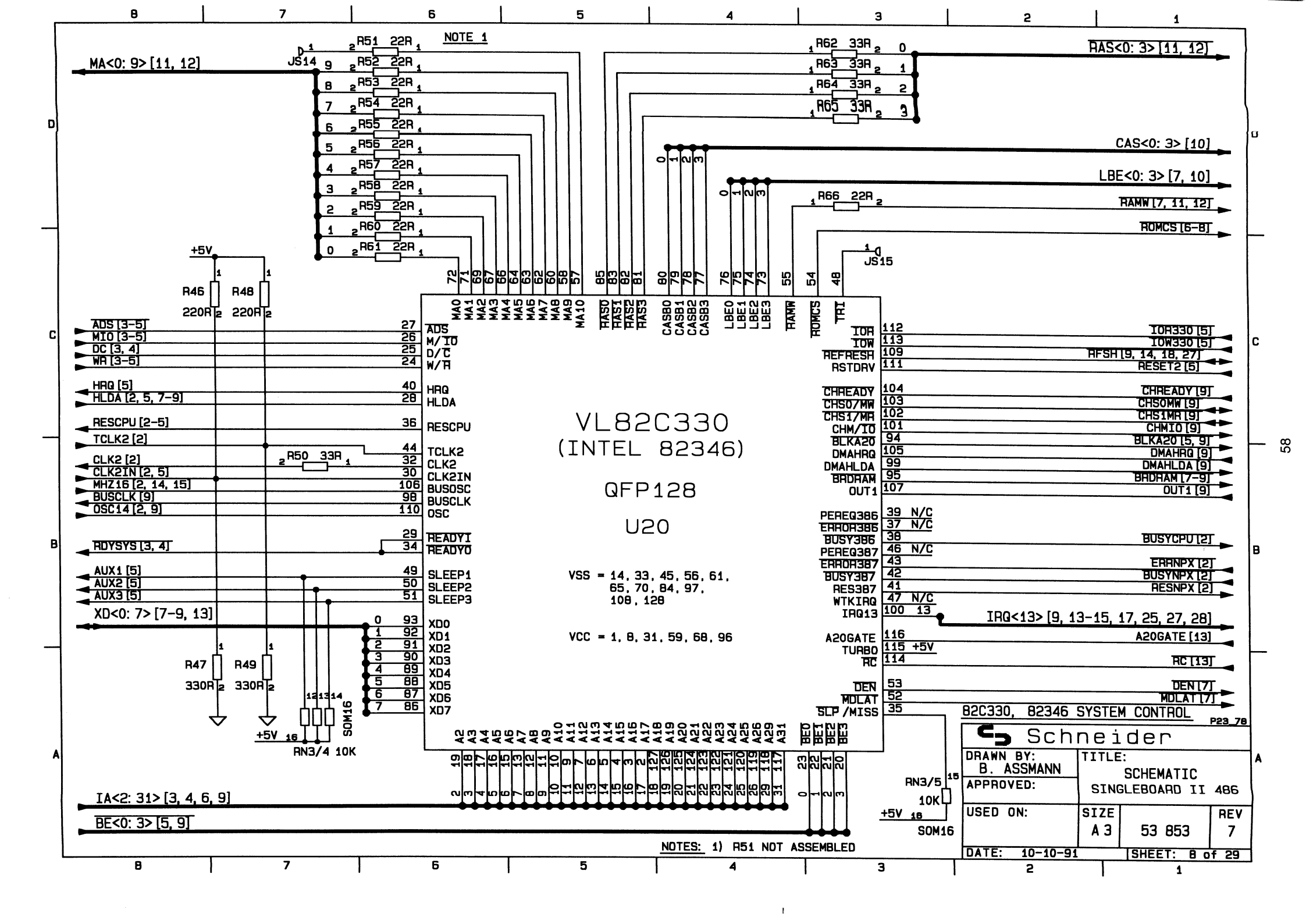


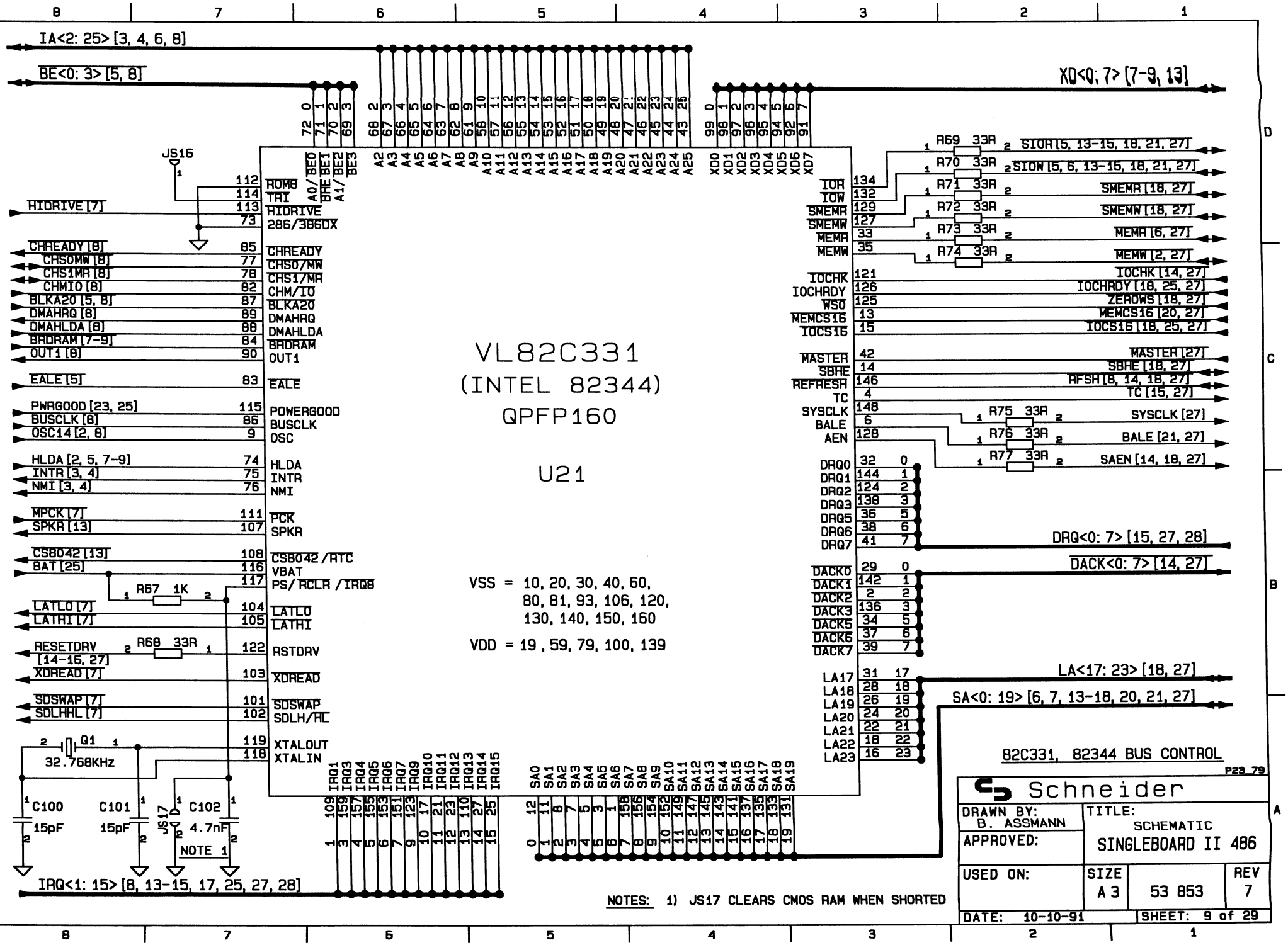

CACHE CONTROL, BIOS + VIDEO BIOS

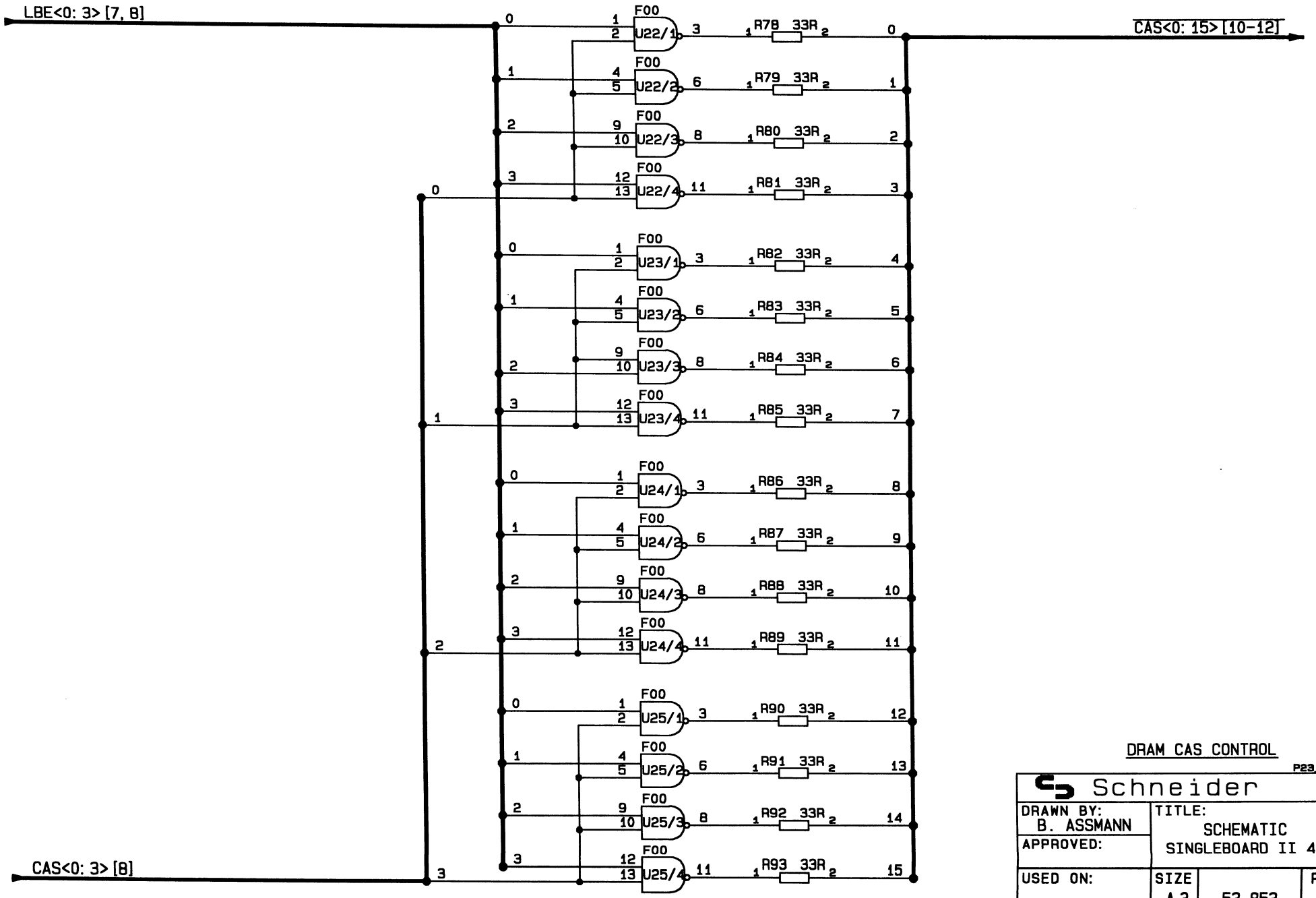
P23_76

| | | | |
|---|---|---|---|
| Schneider | | | |
| DRAWN BY: B. ASSMANN | TITLE: SCHEMATIC SINGLEBOARD II 486 | | |
| APPROVED: | | | |
| USED ON: | SIZE A 3 | 53 853 | REV 7 |
| DATE: 10-10-91 | SHEET: 6 of 29 | | |


VL82C332
(INTEL 82345)
QFP128
U19
VSS = 33, 49, 65, 81, 97, 101, 108, 114, 122, 128
VCC = 1, 16, 48, 80, 107
ID<0: 31> [3, 4]
LBE<0: 3> [8, 10]
LBE0
LBE1
LBE2
LBE3
DEN [8]
MDLAT [8]
ROMCS [6-8]
BADRAM [7-9]
RAMW [8, 11, 12]
HLDA [2, 5, 7-9]
XDREAD [9]
SDSWAP [9]
SDLHHL [9]
SA<1> [6, 9, 13-18, 20, 21, 27]
LATLO [9]
LATHI [9]
MPCK [9]
HIDRIVE [9]
SD<0: 15> [6, 14, 15, 17, 21, 27]
PAR<0: 3> [11, 12]
MD<0: 31> [6, 11, 12]
XD<0: 7> [7-9, 13]
RN3/3 10K
RN3/2 10K
RN3/1 10K
R44 20K
R45 1R
JS13
SOM16
+5V
RN2
82C332, 82345 DATA BUFFER
P23_77
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
USED ON:
TITLE: SCHEMATIC SINGLEBOARD II 486
SIZE A 3
53 853
REV 7
DATE: 10-10-91
SHEET: 7 of 29


NOTE 1
MA<0: 9> [11, 12]
JS14
R51 22R
R52 22R
R53 22R
R54 22R
R55 22R
R56 22R
R57 22R
R58 22R
R59 22R
R60 22R
R61 22R
R62 33R
R63 33R
R64 33R
R65 33R
RAS<0: 3> [11, 12]
CAS<0: 3> [10]
LBE<0: 3> [7, 10]
RAMW [7, 11, 12]
ROMCS [6-8]
R66 22R
JS15
+5V
R46 220R
R48 220R
R47 330R
R49 330R
R50 33R
MA0 MA1 MA2 MA3 MA4 MA5 MA6 MA7 MA8 MA9 MA10
RAS0 RAS1 RAS2 RAS3
CAS0 CAS1 CAS2 CAS3
LBE0 LBE1 LBE2 LBE3
RAMW
ROMCS
TRI
ADS [3-5]
MIO [3-5]
DC [3, 4]
WR [3-5]
HRQ [5]
HLDA [2, 5, 7-9]
RESCPU [2-5]
TCLK2 [2]
CLK2 [2]
CLK2IN [2, 5]
MHZ16 [2, 14, 15]
BUSCLK [9]
OSC14 [2, 9]
RDYSYS [3, 4]
AUX1 [5]
AUX2 [5]
AUX3 [5]
XD<0: 7> [7-9, 13]
ADS
M/IO
D/C
W/R
HRQ
HLDA
RESCPU
TCLK2
CLK2
CLK2IN
BUSOSC
BUSCLK
OSC
READYI
READYO
SLEEP1
SLEEP2
SLEEP3
XD0 XD1 XD2 XD3 XD4 XD5 XD6 XD7
VL82C330
(INTEL 82346)
QFP128
U20
VSS = 14, 33, 45, 56, 61, 65, 70, 84, 97, 108, 128
VCC = 1, 8, 31, 59, 68, 96
IOR
IOW
REFRESH
RSTDRV
CHREADY
CHS0/MW
CHS1/MR
CHM/IO
BLKA20
DMAHRQ
DMAHLDA
BADRAM
OUT1
PEREQ386
ERROR386
BUSY386
PEREQ387
ERROR387
BUSY387
RES387
WTKIRQ
IRQ13
A20GATE
TURBO
RC
DEN
MDLAT
SLP/MISS
IOR330 [5]
IOW330 [5]
RFSH [9, 14, 18, 27]
RESET2 [5]
CHREADY [9]
CHS0MW [9]
CHS1MR [9]
CHMIO [9]
BLKA20 [5, 9]
DMAHRQ [9]
DMAHLDA [9]
BADRAM [7-9]
OUT1 [9]
N/C
BUSYCPU [2]
ERRNPX [2]
BUSYNPX [2]
RESNPX [2]
IRQ<13> [9, 13-15, 17, 25, 27, 28]
A20GATE [13]
+5V
RC [13]
DEN [7]
MDLAT [7]
82C330, 82346 SYSTEM CONTROL
P23_78
RN3/4 10K
SOM16
RN3/5 10K
SOM16
A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 A17 A18 A19 A20 A21 A22 A23 A24 A25 A26 A29 A31
BE0 BE1 BE2 BE3
IA<2: 31> [3, 4, 6, 9]
BE<0: 3> [5, 9]
NOTES: 1) R51 NOT ASSEMBLED
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
USED ON:
TITLE: SCHEMATIC SINGLEBOARD II 486
SIZE A3
53 853
REV 7
DATE: 10-10-91
SHEET: 8 of 29


IA<2: 25> [3, 4, 6, 8]
BE<0: 3> [5, 8]
XD<0: 7> [7-9, 13]
VL82C331
(INTEL 82344)
QPFP160
U21
VSS = 10, 20, 30, 40, 60, 80, 81, 93, 106, 120, 130, 140, 150, 160
VDD = 19, 59, 79, 100, 139
JS16
HIDRIVE [7]
CHREADY [8]
CHS0MW [8]
CHS1MR [8]
CHMIO [8]
BLKA20 [5, 8]
DMAHRQ [8]
DMAHLDA [8]
BRDRAM [7-9]
OUT1 [8]
EALE [5]
PWRGOOD [23, 25]
BUSCLK [8]
OSC14 [2, 8]
HLDA [2, 5, 7-9]
INTR [3, 4]
NMI [3, 4]
MPCK [7]
SPKR [13]
CS8042 [13]
BAT [25]
R67 1K
LATLO [7]
LATHI [7]
RESETDRV [14-16, 27]
R68 33R
XDREAD [7]
SDSWAP [7]
SDLHHL [7]
Q1
32.768KHz
C100 15pF
C101 15pF
JS17
C102 4.7nF
NOTE 1
IRQ<1: 15> [8, 13-15, 17, 25, 27, 28]
R69 33R SIOR [5, 13-15, 18, 21, 27]
R70 33R SIOW [5, 6, 13-15, 18, 21, 27]
R71 33R SMEMR [18, 27]
R72 33R SMEMW [18, 27]
R73 33R MEMR [6, 27]
R74 33R MEMW [2, 27]
IOCHK [14, 27]
IOCHRDY [18, 25, 27]
ZEROWS [18, 27]
MEMCS16 [20, 27]
IOCS16 [18, 25, 27]
MASTER [27]
SBHE [18, 27]
RFSH [8, 14, 18, 27]
TC [15, 27]
R75 33R SYSCLK [27]
R76 33R BALE [21, 27]
R77 33R SAEN [14, 18, 27]
DRQ<0: 7> [15, 27, 28]
DACK<0: 7> [14, 27]
LA<17: 23> [18, 27]
SA<0: 19> [6, 7, 13-18, 20, 21, 27]
82C331, 82344 BUS CONTROL
P23 79
NOTES: 1) JS17 CLEARS CMOS RAM WHEN SHORTED
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
USED ON:
TITLE: SCHEMATIC SINGLEBOARD II 486
SIZE A 3
53 853
REV 7
DATE: 10-10-91
SHEET: 9 of 29




DRAM CAS CONTROL

P23_710

Schneider

| | | | |
|---|---|---|---|
| DRAWN BY: B. ASSMANN | TITLE: SCHEMATIC SINGLEBOARD II 486 | | |
| APPROVED: | | | |
| USED ON: | SIZE A 3 | 53 853 | REV 7 |
| DATE: 10-10-91 | SHEET: 10 of 29 | | |

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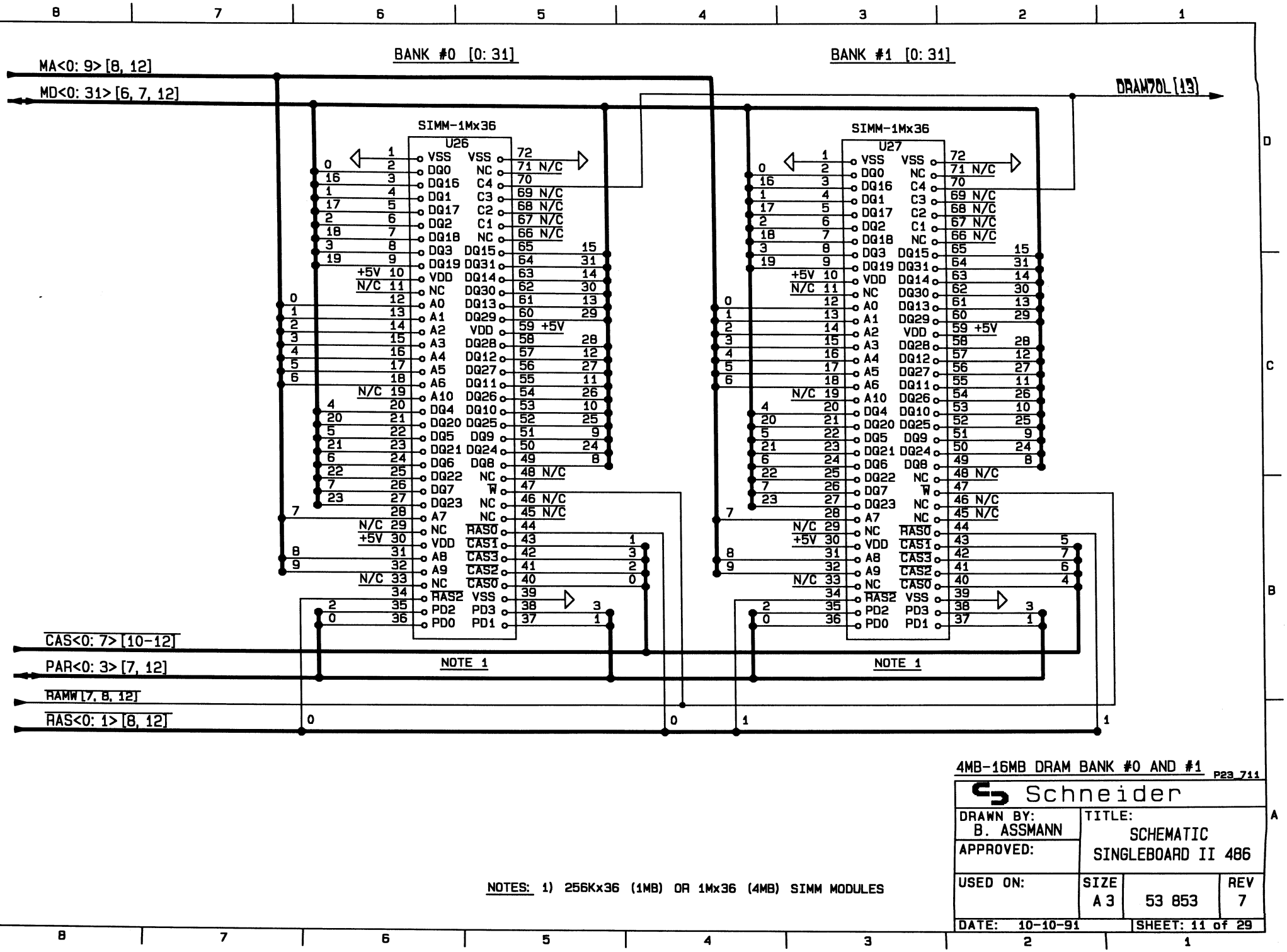


NOTES: 1) 256Kx36 (1MB) OR 1Mx36 (4MB) SIMM MODULES

4MB-16MB DRAM BANK #0 AND #1 P23_711

Schneider

| | | | |
|---|---|---|---|
| DRAWN BY: B. ASSMANN | TITLE: SCHEMATIC SINGLEBOARD II 486 | | |
| APPROVED: | | | |
| USED ON: | SIZE A3 | 53 853 | REV 7 |
| DATE: 10-10-91 | SHEET: 11 of 29 | | |

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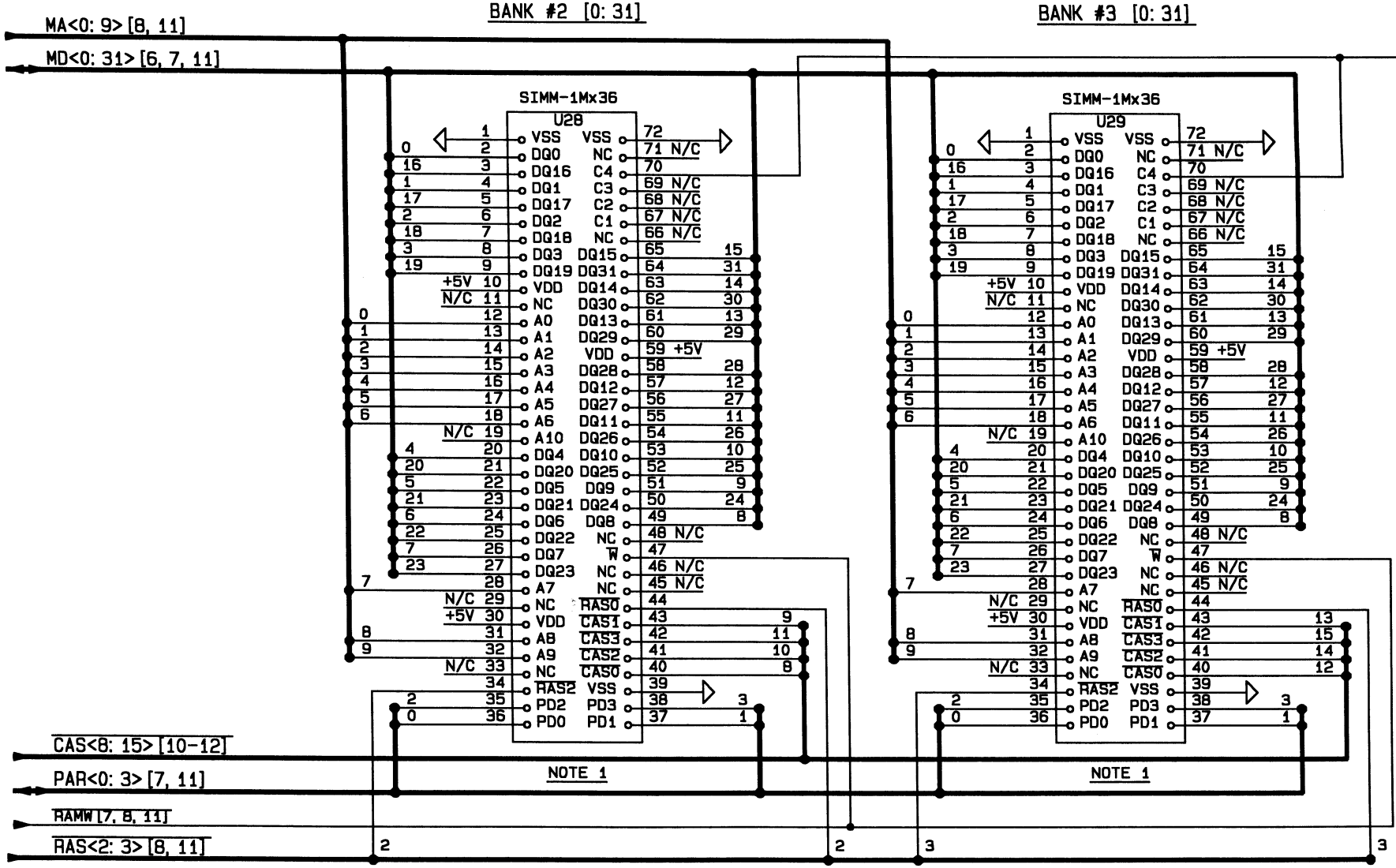
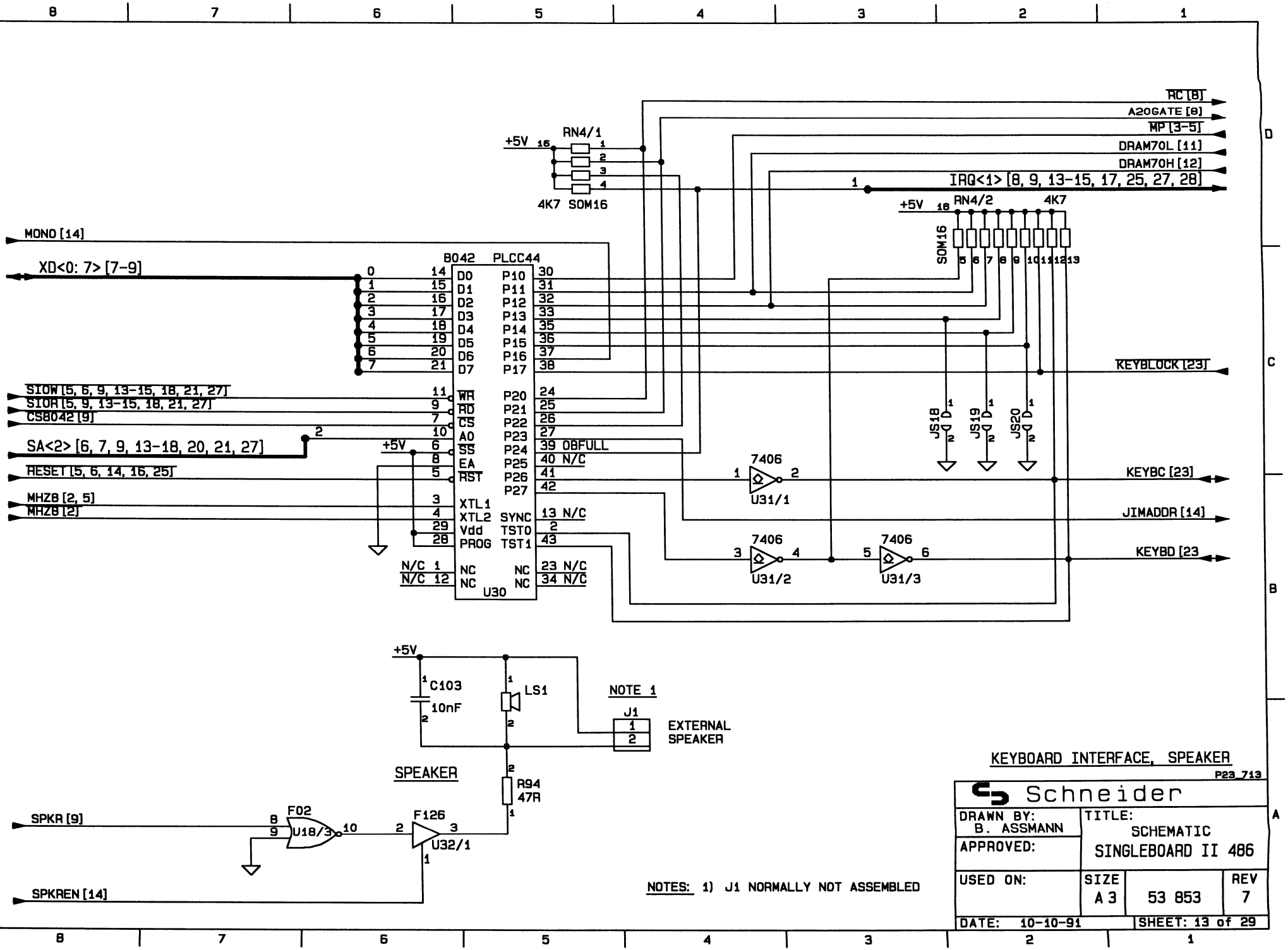
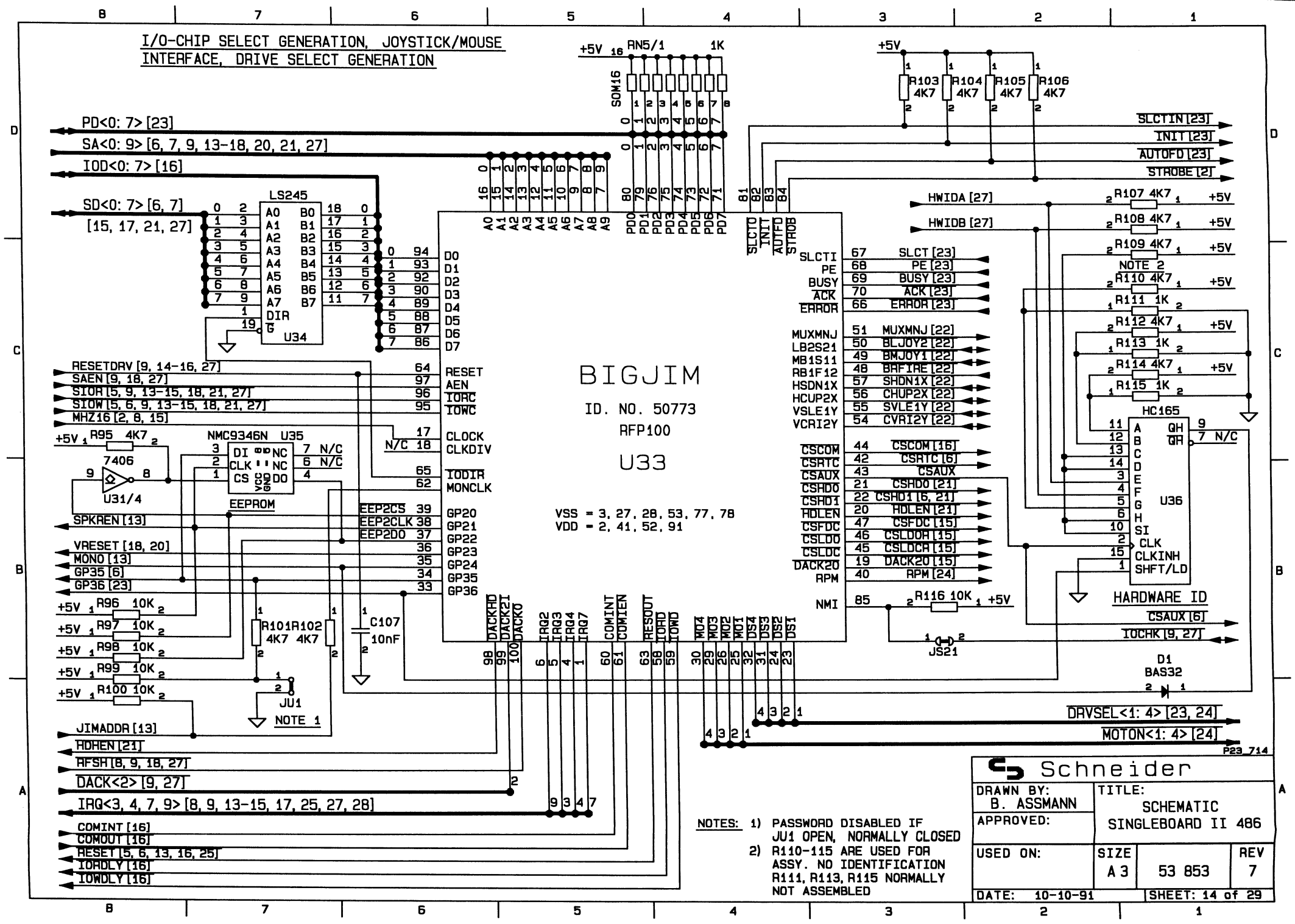


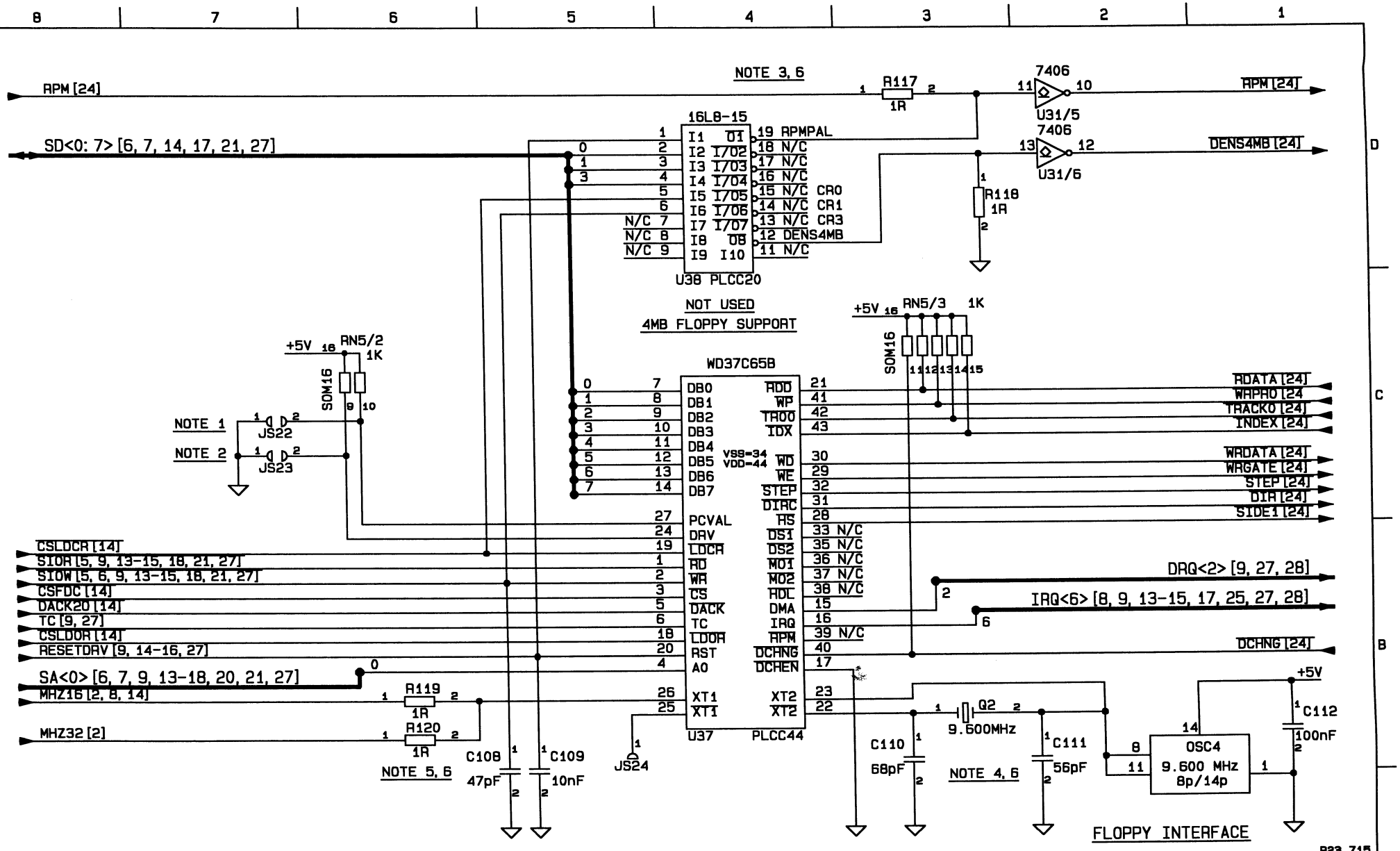

NOTES: 1) 256Kx36 (1MB) OR 1Mx36 (4MB) SIMM MODULES

4MB-16MB DRAM BANK #2 AND #3 P23_712

| | | | |
|---|---|---|---|
| Schneider | | | |
| DRAWN BY: B. ASSMANN | TITLE: SCHEMATIC SINGLEBOARD II 486 | | |
| APPROVED: | | | |
| USED ON: | SIZE A 3 | 53 853 | REV 7 |
| DATE: 10-10-91 | SHEET: 12 of 29 | | |

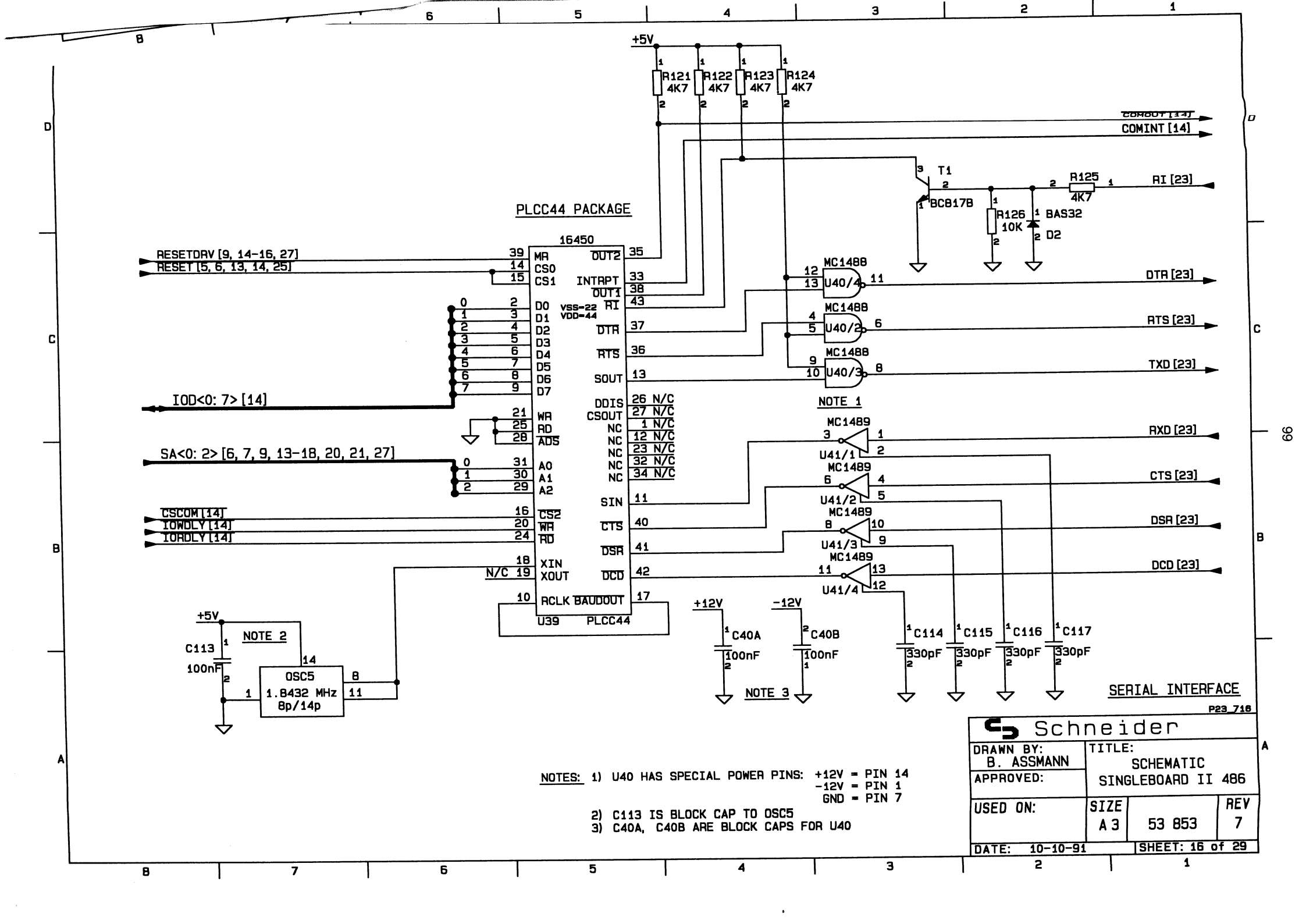

RC [8]
A20GATE [8]
MP [3-5]
DRAM70L [11]
DRAM70H [12]
IRQ<1> [8, 9, 13-15, 17, 25, 27, 28]
RN4/1
+5V
4K7 SOM16
RN4/2
4K7
SOM16
MONO [14]
XD<0: 7> [7-9]
8042 PLCC44
D0 P10
D1 P11
D2 P12
D3 P13
D4 P14
D5 P15
D6 P16
D7 P17
KEYBLOCK [23]
SIOW [5, 6, 9, 13-15, 18, 21, 27]
SIOR [5, 9, 13-15, 18, 21, 27]
CS8042 [9]
SA<2> [6, 7, 9, 13-18, 20, 21, 27]
RESET [5, 6, 14, 15, 25]
MHZ8 [2, 5]
MHZ8 [2]
WR P20
RD P21
CS P22
A0 P23
SS P24
EA P25
RST P26
P27
XTL1
XTL2 SYNC
Vdd TST0
PROG TST1
NC NC
NC NC
OBFULL
N/C
N/C
N/C
N/C
N/C
JS18
JS19
JS20
7406
U31/1
U31/2
U31/3
KEYBC [23]
JIMADDR [14]
KEYBD [23
U30
C103
10nF
LS1
NOTE 1
J1
EXTERNAL SPEAKER
SPEAKER
R94
47R
F02
U18/3
F126
U32/1
SPKR [9]
SPKREN [14]
NOTES: 1) J1 NORMALLY NOT ASSEMBLED
KEYBOARD INTERFACE, SPEAKER
P23_713
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD II 486
USED ON:
SIZE A3
53 853
REV 7
DATE: 10-10-91
SHEET: 13 of 29


I/O-CHIP SELECT GENERATION, JOYSTICK/MOUSE INTERFACE, DRIVE SELECT GENERATION
BIGJIM
ID. NO. 50773
RFP100
U33
VSS = 3, 27, 28, 53, 77, 78
VDD = 2, 41, 52, 91
LS245
U34
NMC9346N U35
EEPROM
7406
U31/4
HC165
U36
HARDWARE ID
JU1
NOTE 1
JS21
D1 BAS32
R101R102 4K7 4K7
C107 10nF
R95 4K7
R96 10K
R97 10K
R98 10K
R99 10K
R100 10K
R103 4K7
R104 4K7
R105 4K7
R106 4K7
RN5/1 1K
SOM16
R107 4K7
R108 4K7
R109 4K7
NOTE 2
R110 4K7
R111 1K
R112 4K7
R113 1K
R114 4K7
R115 1K
R116 10K
PD<0: 7> [23]
SA<0: 9> [6, 7, 9, 13-18, 20, 21, 27]
IOD<0: 7> [16]
SD<0: 7> [6, 7] [15, 17, 21, 27]
RESETDRV [9, 14-16, 27]
SAEN [9, 18, 27]
SIOR [5, 9, 13-15, 18, 21, 27]
SIOW [5, 6, 9, 13-15, 18, 21, 27]
MHZ16 [2, 8, 15]
SPKREN [13]
VRESET [18, 20]
MONO [13]
GP35 [6]
GP36 [23]
JIMADDR [13]
HDHEN [21]
RFSH [8, 9, 18, 27]
DACK<2> [9, 27]
IRQ<3, 4, 7, 9> [8, 9, 13-15, 17, 25, 27, 28]
COMINT [16]
COMOUT [16]
RESET [5, 6, 13, 16, 25]
IORDLY [16]
IOWDLY [16]
SLCTIN [23]
INIT [23]
AUTOFD [23]
STROBE [2]
HWIDA [27]
HWIDB [27]
SLCT [23]
PE [23]
BUSY [23]
ACK [23]
ERROR [23]
MUXMNJ [22]
BLJOY2 [22]
BMJOY1 [22]
BAFIRE [22]
SHDN1X [22]
CHUP2X [22]
SVLE1Y [22]
CVRI2Y [22]
CSCOM [16]
CSRTC [6]
CSAUX
CSHD0 [21]
CSHD1 [6, 21]
HDLEN [21]
CSFDC [15]
CSLDOA [15]
CSLDOC [15]
DACK20 [15]
RPM [24]
CSAUX [6]
IOCHK [9, 27]
DRVSEL<1: 4> [23, 24]
MOTON<1: 4> [24]
P23_714
NOTES: 1) PASSWORD DISABLED IF JU1 OPEN, NORMALLY CLOSED
2) R110-115 ARE USED FOR ASSY. NO IDENTIFICATION R111, R113, R115 NORMALLY NOT ASSEMBLED
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD II 486
USED ON:
SIZE A 3
53 853
REV 7
DATE: 10-10-91
SHEET: 14 of 29




NOTES:
1) JS22 SELECTS WRITE PRECOMP. VAL.: JS22 OPEN : 125 ns
JS22 CLOSED: 187 ns
2) JS23 SELECTS 2 SPEED SPINDLE DRIVE IF CLOSED
3) EITHER U38, C38 OR R117, R118 ARE ASSEMBLED
4) EITHER OSC4, C112 OR Q2, C110, C111 ARE ASSEMBLED
5) EITHER R119 OR R120 IS ASSEMBLED
6) U38, C38, OSC4, C112, R120 NORMALLY NOT ASSEMBLED

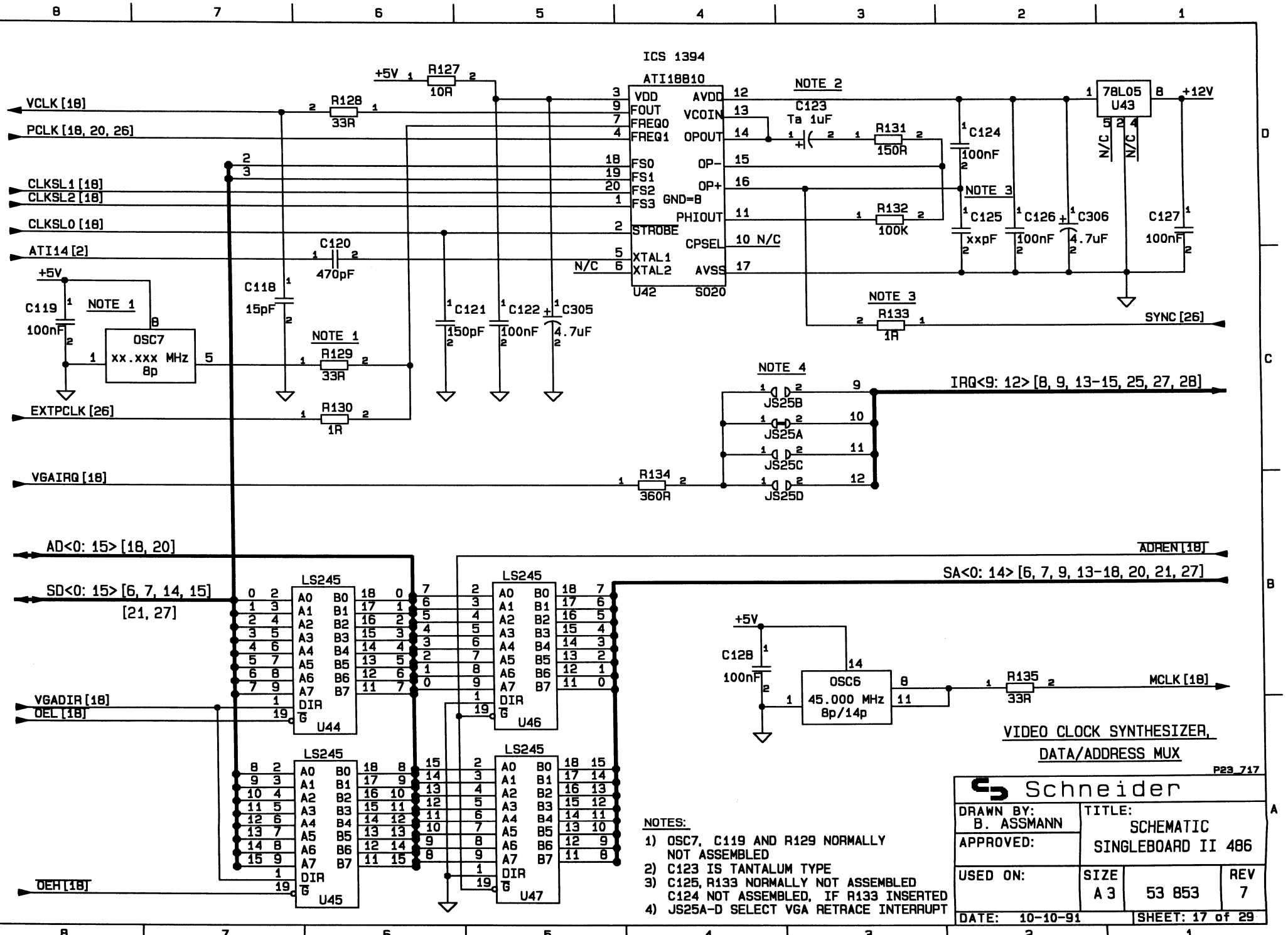
| | | | |
|---|---|---|---|
| Schneider | | | |
| DRAWN BY: B. ASSMANN | TITLE: SCHEMATIC SINGLEBOARD II 486 | | |
| APPROVED: | | | |
| USED ON: | SIZE A3 | 53 853 | REV 7 |
| DATE: 10-10-91 | SHEET: 15 of 29 | | |




NOTES: 1) U40 HAS SPECIAL POWER PINS: +12V = PIN 14
-12V = PIN 1
GND = PIN 7

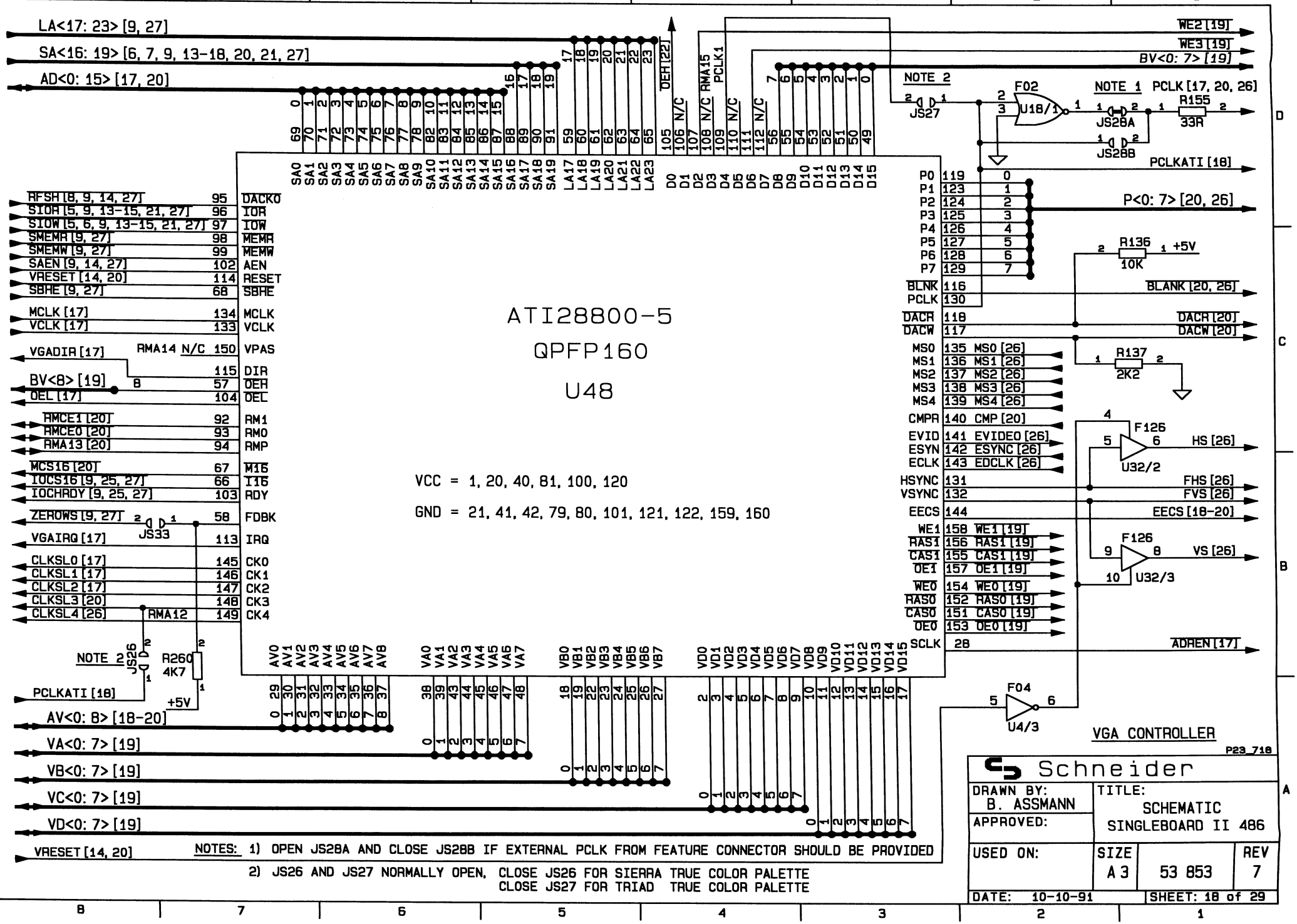
2) C113 IS BLOCK CAP TO OSC5
3) C40A, C40B ARE BLOCK CAPS FOR U40

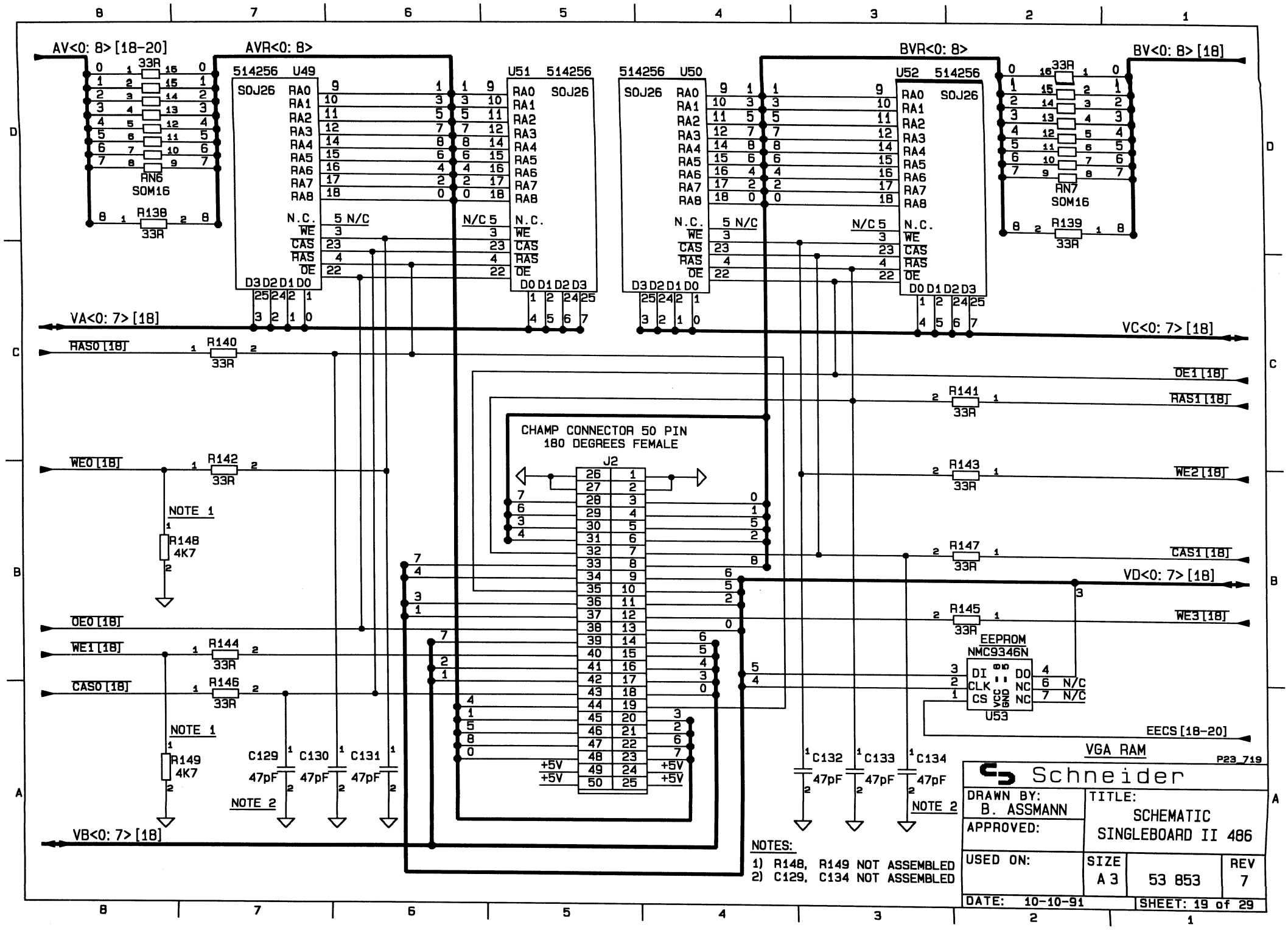
| | | | |
|---|---|---|---|
| Schneider | | | |
| DRAWN BY: B. ASSMANN | TITLE: SCHEMATIC SINGLEBOARD II 486 | | |
| APPROVED: | | | |
| USED ON: | SIZE A 3 | 53 853 | REV 7 |
| DATE: 10-10-91 | SHEET: 16 of 29 | | |

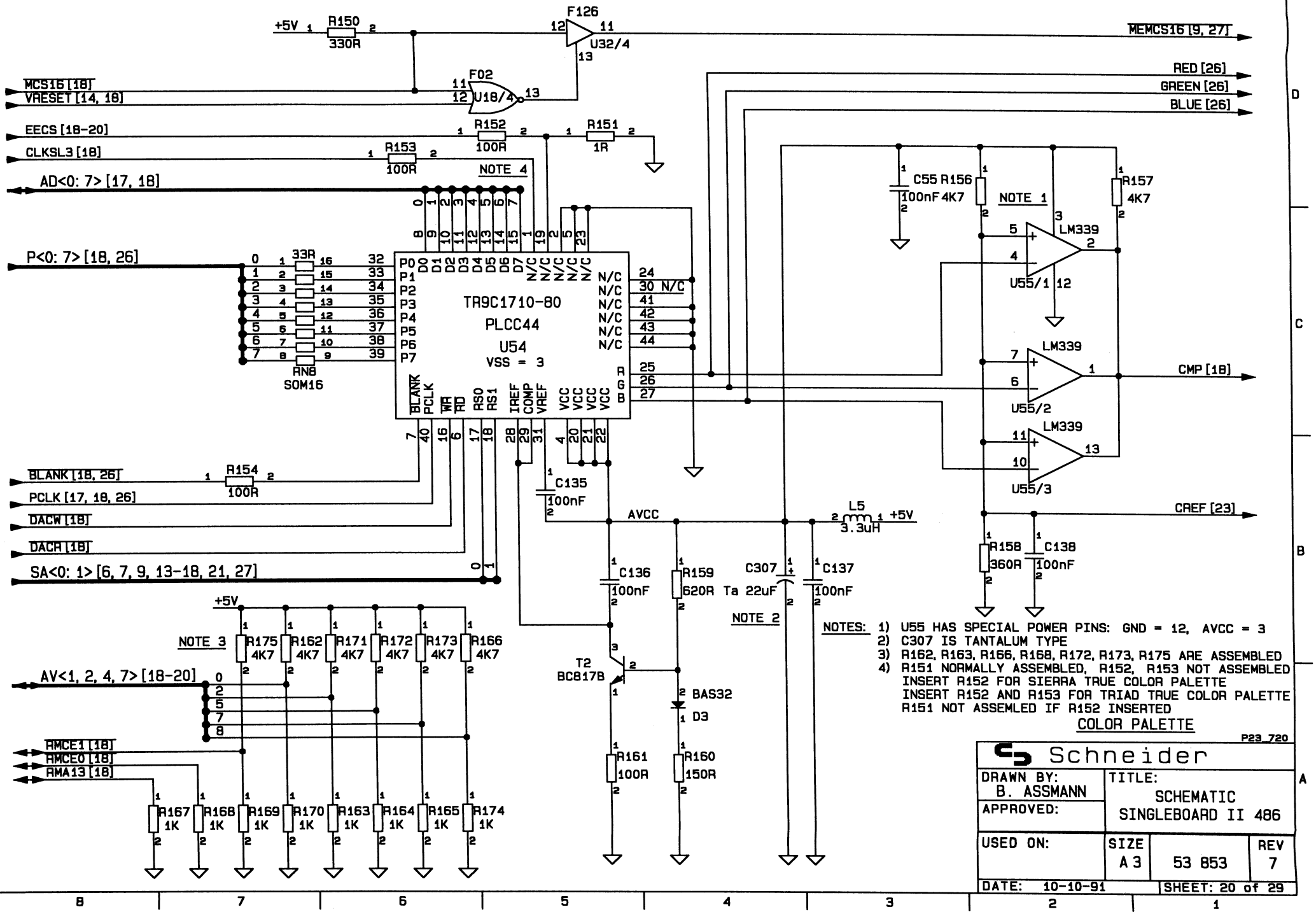



NOTES:

1) OSC7, C119 AND R129 NORMALLY NOT ASSEMBLED
2) C123 IS TANTALUM TYPE
3) C125, R133 NORMALLY NOT ASSEMBLED C124 NOT ASSEMBLED, IF R133 INSERTED
4) JS25A-D SELECT VGA RETRACE INTERRUPT


LA<17: 23> [9, 27]
SA<16: 19> [6, 7, 9, 13-18, 20, 21, 27]
AD<0: 15> [17, 20]
ATI28800-5
QPFP160
U48
VCC = 1, 20, 40, 81, 100, 120
GND = 21, 41, 42, 79, 80, 101, 121, 122, 159, 160
RFSH [8, 9, 14, 27]
SIOR [5, 9, 13-15, 21, 27]
SIOW [5, 6, 9, 13-15, 21, 27]
SMEMR [9, 27]
SMEMW [9, 27]
SAEN [9, 14, 27]
VRESET [14, 20]
SBHE [9, 27]
MCLK [17]
VCLK [17]
VGADIR [17]
BV<8> [19]
OEL [17]
RMCE1 [20]
RMCE0 [20]
RMA13 [20]
MCS16 [20]
IOCS16 [9, 25, 27]
IOCHRDY [9, 25, 27]
ZEROWS [9, 27]
VGAIRQ [17]
CLKSL0 [17]
CLKSL1 [17]
CLKSL2 [17]
CLKSL3 [20]
CLKSL4 [26]
RMA12
RMA14 N/C
JS33
JS26
R260 4K7
+5V
PCLKATI [18]
AV<0: 8> [18-20]
VA<0: 7> [19]
VB<0: 7> [19]
VC<0: 7> [19]
VD<0: 7> [19]
VRESET [14, 20]
OEH [22]
RMA15
PCLK1
WE2 [19]
WE3 [19]
BV<0: 7> [19]
NOTE 2
JS27
F02
U18/1
NOTE 1
PCLK [17, 20, 26]
JS28A
JS28B
R155 33R
PCLKATI [18]
P<0: 7> [20, 26]
R136 10K
+5V
BLANK [20, 26]
DACR [20]
DACW [20]
R137 2K2
F126
U32/2
HS [26]
FHS [26]
FVS [26]
EECS [18-20]
F126
U32/3
VS [26]
ADREN [17]
F04
U4/3
VGA CONTROLLER
P23_718
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD II 486
USED ON:
SIZE A3
53 853
REV 7
DATE: 10-10-91
SHEET: 18 of 29
NOTES: 1) OPEN JS28A AND CLOSE JS28B IF EXTERNAL PCLK FROM FEATURE CONNECTOR SHOULD BE PROVIDED
2) JS26 AND JS27 NORMALLY OPEN, CLOSE JS26 FOR SIERRA TRUE COLOR PALETTE
CLOSE JS27 FOR TRIAD TRUE COLOR PALETTE


AV<0: 8> [18-20]
AVR<0: 8>
BVR<0: 8>
BV<0: 8> [18]
RN6
SOM16
R138
33R
514256 U49
SOJ26
RA0
RA1
RA2
RA3
RA4
RA5
RA6
RA7
RA8
N.C.
WE
CAS
RAS
OE
D3 D2 D1 D0
U51 514256
SOJ26
D0 D1 D2 D3
514256 U50
U52 514256
RN7
SOM16
R139
33R
VA<0: 7> [18]
VC<0: 7> [18]
RAS0 [18]
R140
33R
OE1 [18]
R141
RAS1 [18]
CHAMP CONNECTOR 50 PIN
180 DEGREES FEMALE
J2
WE0 [18]
R142
R143
WE2 [18]
NOTE 1
R148
4K7
R147
CAS1 [18]
VD<0: 7> [18]
OE0 [18]
R145
WE3 [18]
WE1 [18]
R144
EEPROM
NMC9346N
CAS0 [18]
R146
DI
CLK
CS
DO
NC
VCC
GND
U53
EECS [18-20]
NOTE 1
R149
4K7
C129
C130
C131
47pF
NOTE 2
+5V
VB<0: 7> [18]
C132
C133
C134
VGA RAM
P23_719
Schneider
DRAWN BY:
B. ASSMANN
APPROVED:
TITLE:
SCHEMATIC
SINGLEBOARD II 486
USED ON:
SIZE
A 3
53 853
REV
7
DATE: 10-10-91
SHEET: 19 of 29
NOTES:
1) R148, R149 NOT ASSEMBLED
2) C129, C134 NOT ASSEMBLED

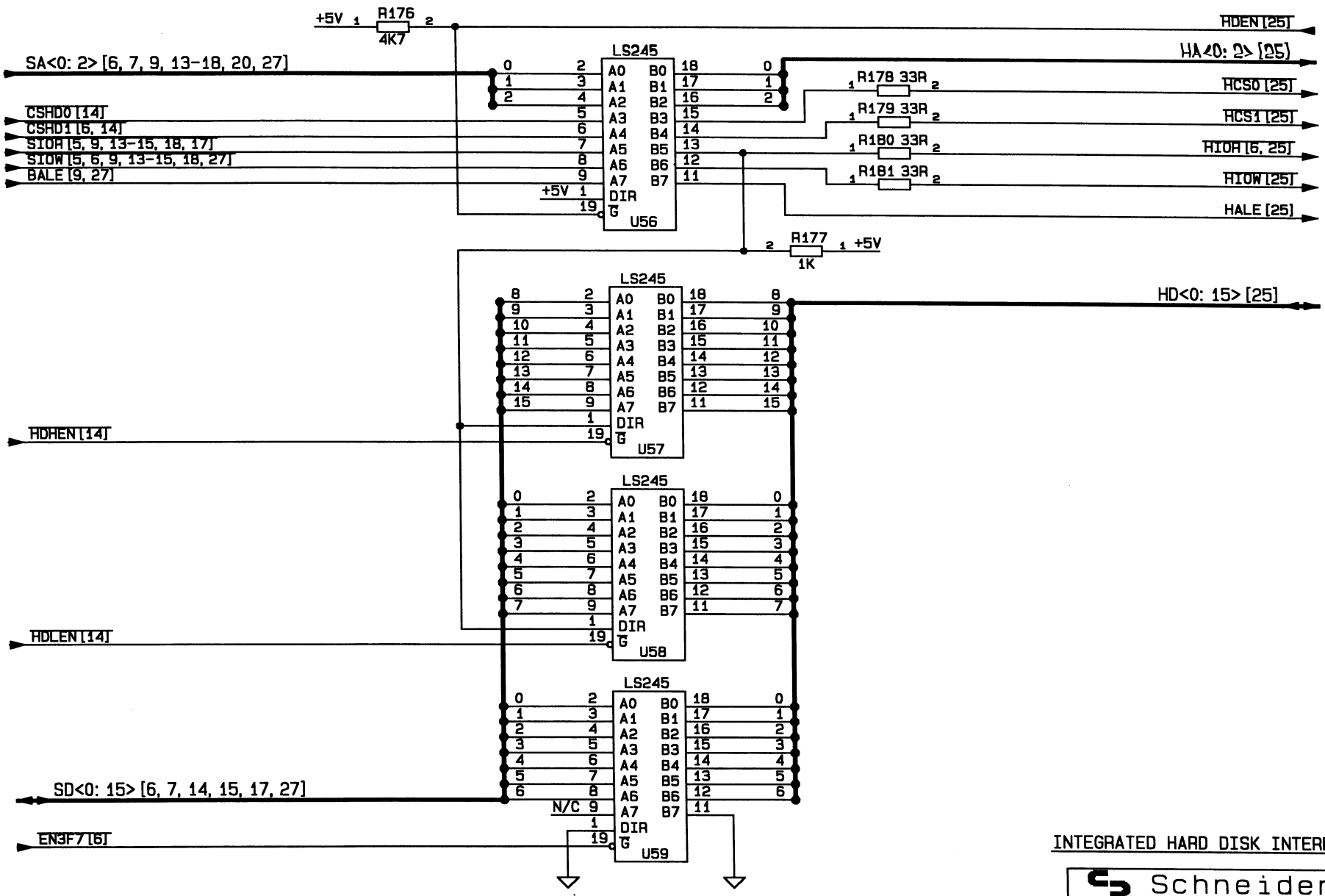



NOTES:
1) U55 HAS SPECIAL POWER PINS: GND = 12, AVCC = 3
2) C307 IS TANTALUM TYPE
3) R162, R163, R166, R168, R172, R173, R175 ARE ASSEMBLED
4) R151 NORMALLY ASSEMBLED, R152, R153 NOT ASSEMBLED
   INSERT R152 FOR SIERRA TRUE COLOR PALETTE
   INSERT R152 AND R153 FOR TRIAD TRUE COLOR PALETTE
   R151 NOT ASSEMLED IF R152 INSERTED

COLOR PALETTE

P23_720

| | | |
|---|---|---|
| Schneider | | |
| DRAWN BY: B. ASSMANN | TITLE: SCHEMATIC SINGLEBOARD II 486 | |
| APPROVED: | | |
| USED ON: | SIZE A 3 / 53 853 | REV 7 |
| DATE: 10-10-91 | SHEET: 20 of 29 | |




INTEGRATED HARD DISK INTERFACE (IDE)

P23_721

Schneider

| | | | |
|---|---|---|---|
| DRAWN BY: B. ASSMANN | TITLE: SCHEMATIC SINGLEBOARD II 486 | | |
| APPROVED: | | | |
| USED ON: | SIZE A 3 | 53 853 | REV 7 |
| DATE: 10-10-91 | SHEET: 21 of 29 | | |

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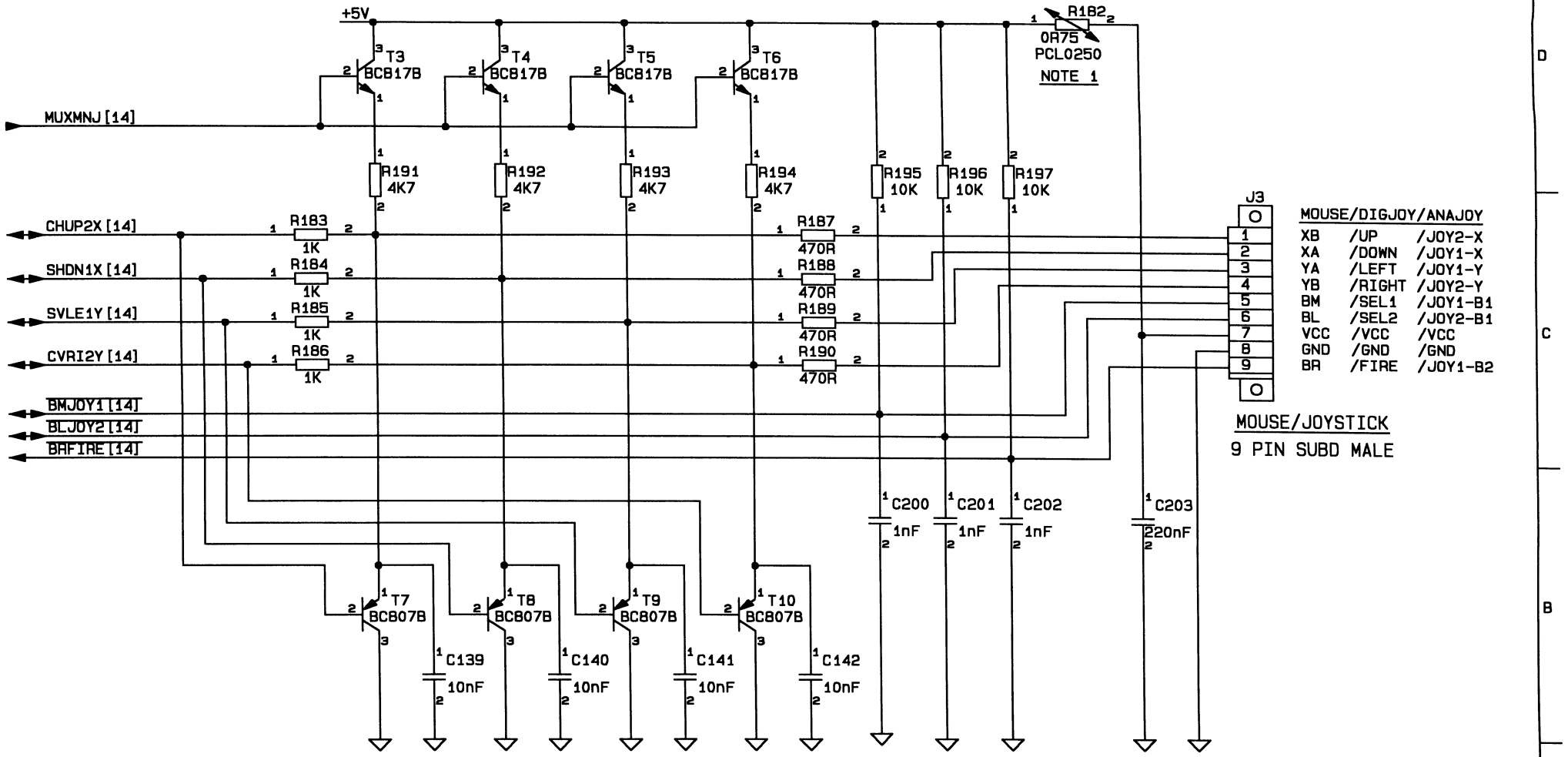
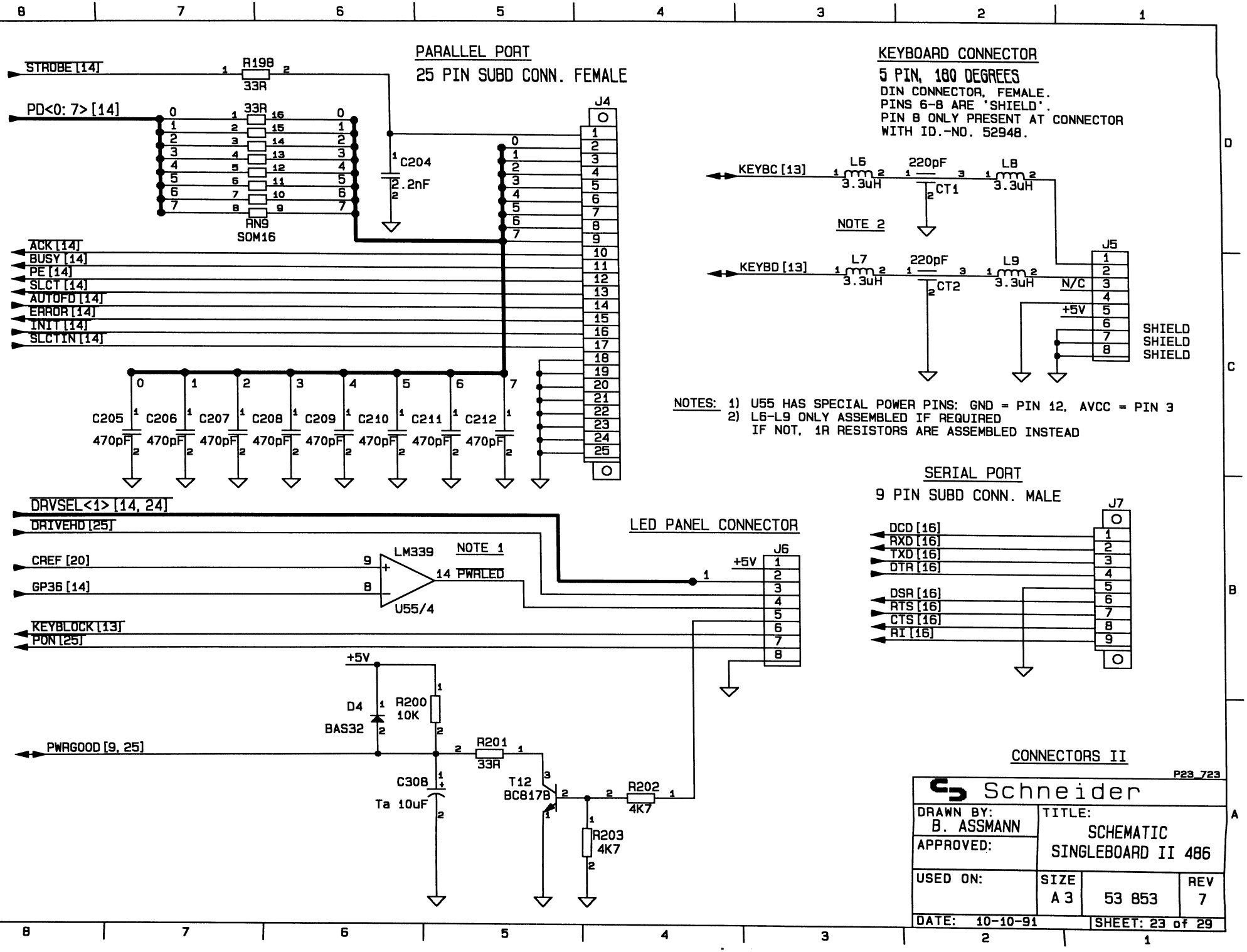


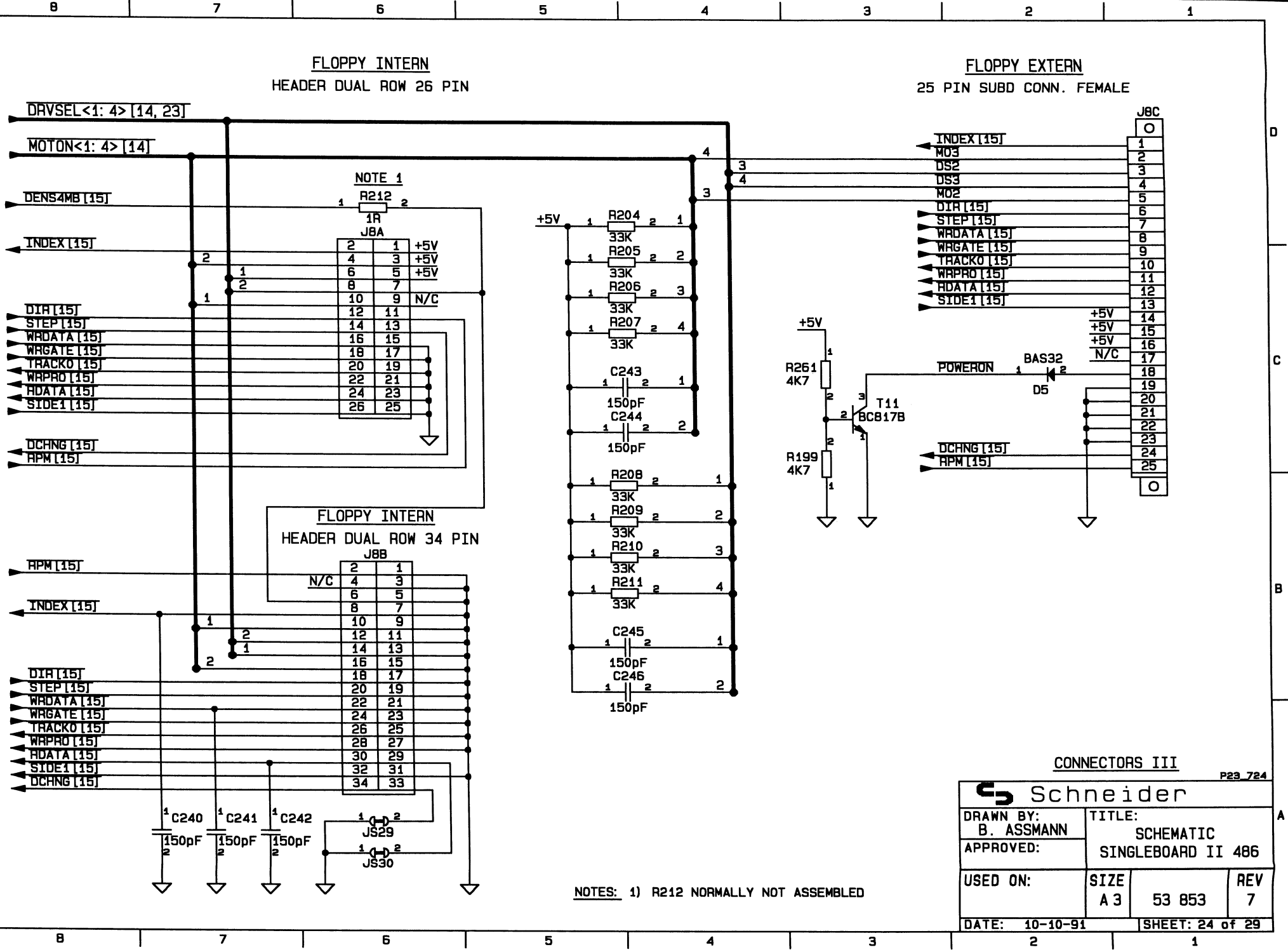

NOTES: 1) R182 IS A PTC RESISTOR FOR CURRENT LIMITATION

JOYSTICK/MOUSE MUX
CONNECTORS I

P23_722

| | | | |
|---|---|---|---|
| Schneider | | | |
| DRAWN BY: B. ASSMANN | TITLE: SCHEMATIC SINGLEBOARD II 486 | | |
| APPROVED: | | | |
| USED ON: | SIZE A3 | 53 853 | REV 7 |
| DATE: 10-10-91 | SHEET: 22 of 29 | | |


PARALLEL PORT
25 PIN SUBD CONN. FEMALE
STROBE [14]
R198
33R
PD<0:7> [14]
33R
AN9
SOM16
C204
2.2nF
J4
ACK [14]
BUSY [14]
PE [14]
SLCT [14]
AUTOFD [14]
ERROR [14]
INIT [14]
SLCTIN [14]
C205 470pF
C206 470pF
C207 470pF
C208 470pF
C209 470pF
C210 470pF
C211 470pF
C212 470pF
KEYBOARD CONNECTOR
5 PIN, 180 DEGREES
DIN CONNECTOR, FEMALE.
PINS 6-8 ARE 'SHIELD'.
PIN 8 ONLY PRESENT AT CONNECTOR
WITH ID.-NO. 52948.
KEYBC [13]
L6 3.3uH
220pF
CT1
L8 3.3uH
NOTE 2
KEYBD [13]
L7 3.3uH
220pF
CT2
L9 3.3uH
N/C
+5V
J5
SHIELD
SHIELD
SHIELD
NOTES: 1) U55 HAS SPECIAL POWER PINS: GND = PIN 12, AVCC = PIN 3
2) L6-L9 ONLY ASSEMBLED IF REQUIRED
IF NOT, 1R RESISTORS ARE ASSEMBLED INSTEAD
SERIAL PORT
9 PIN SUBD CONN. MALE
J7
DCD [16]
RXD [16]
TXD [16]
DTR [16]
DSR [16]
RTS [16]
CTS [16]
RI [16]
DRVSEL<1> [14, 24]
DRIVEHD [25]
CREF [20]
GP36 [14]
LM339
NOTE 1
14 PWRLED
U55/4
LED PANEL CONNECTOR
J6
+5V
KEYBLOCK [13]
PON [25]
+5V
D4
BAS32
R200
10K
PWRGOOD [9, 25]
R201
33R
C308
Ta 10uF
T12
BC817B
R202
4K7
R203
4K7
CONNECTORS II
P23_723
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD II 486
USED ON:
SIZE A3
53 853
REV 7
DATE: 10-10-91
SHEET: 23 of 29


FLOPPY INTERN
HEADER DUAL ROW 26 PIN
FLOPPY EXTERN
25 PIN SUBD CONN. FEMALE
DRVSEL<1:4>[14,23]
MOTON<1:4>[14]
DENS4MB[15]
INDEX[15]
DIR[15]
STEP[15]
WRDATA[15]
WRGATE[15]
TRACK0[15]
WRPRO[15]
RDATA[15]
SIDE1[15]
DCHNG[15]
RPM[15]
NOTE 1
R212
1R
J8A
+5V
N/C
R204
R205
R206
R207
33K
C243
C244
150pF
R208
R209
R210
R211
C245
C246
J8C
MO3
DS2
DS3
MO2
N/C
R261
4K7
R199
T11
BC817B
POWERON
BAS32
D5
FLOPPY INTERN
HEADER DUAL ROW 34 PIN
J8B
C240
C241
C242
JS29
JS30
NOTES: 1) R212 NORMALLY NOT ASSEMBLED
CONNECTORS III
P23_724
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
USED ON:
TITLE: SCHEMATIC SINGLEBOARD II 486
SIZE A3
53 853
REV 7
DATE: 10-10-91
SHEET: 24 of 29
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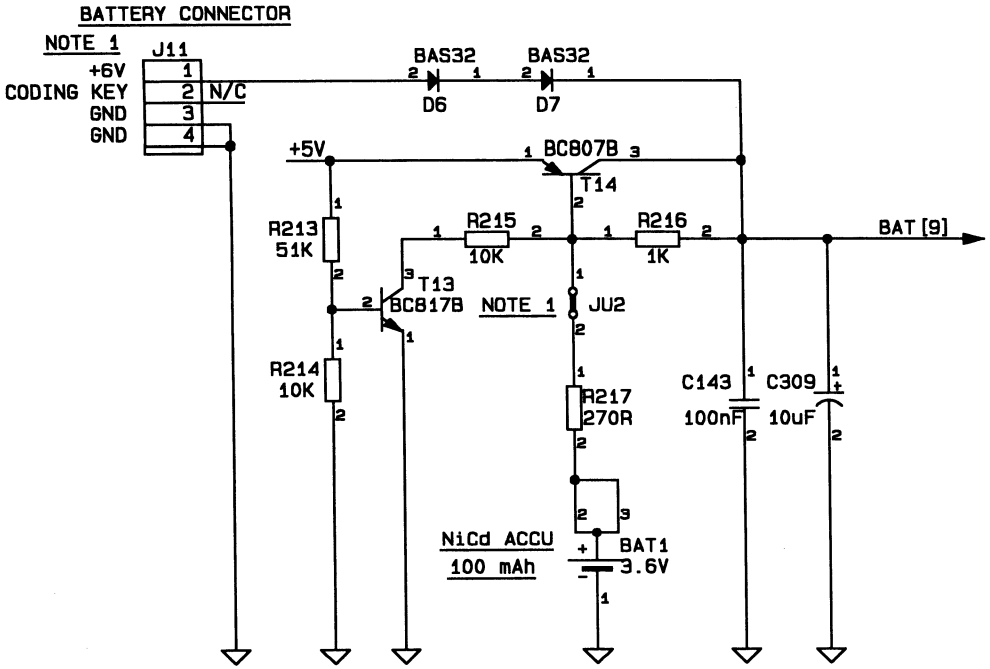
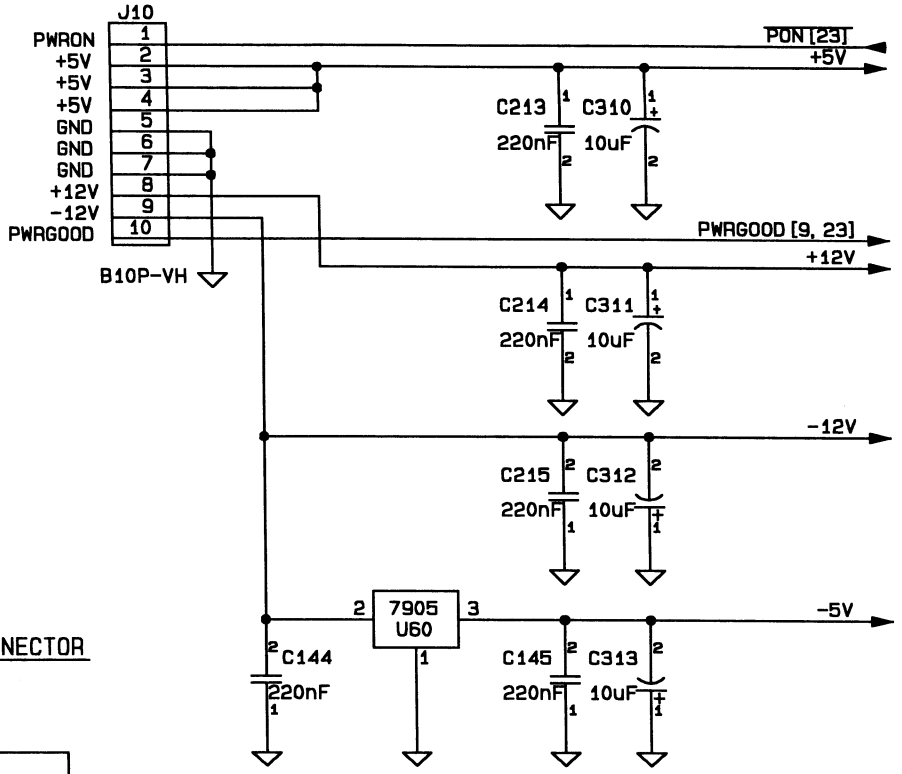
## BATTERY CONNECTOR

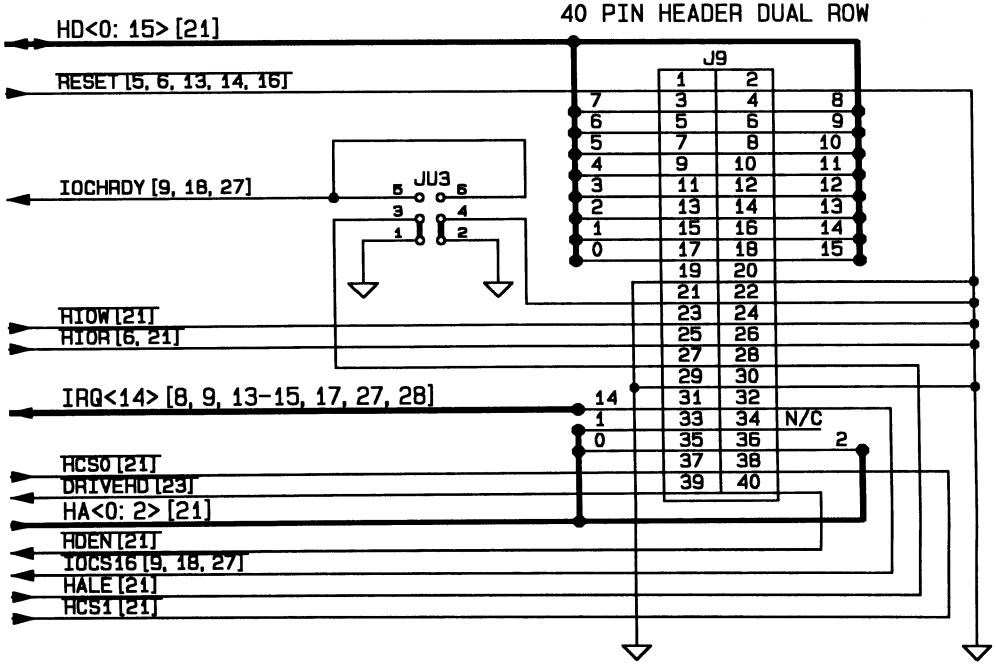



## POWER CONNECTOR




## AT INTEGRATED HARD DISK DRIVE CONNECTOR

40 PIN HEADER DUAL ROW

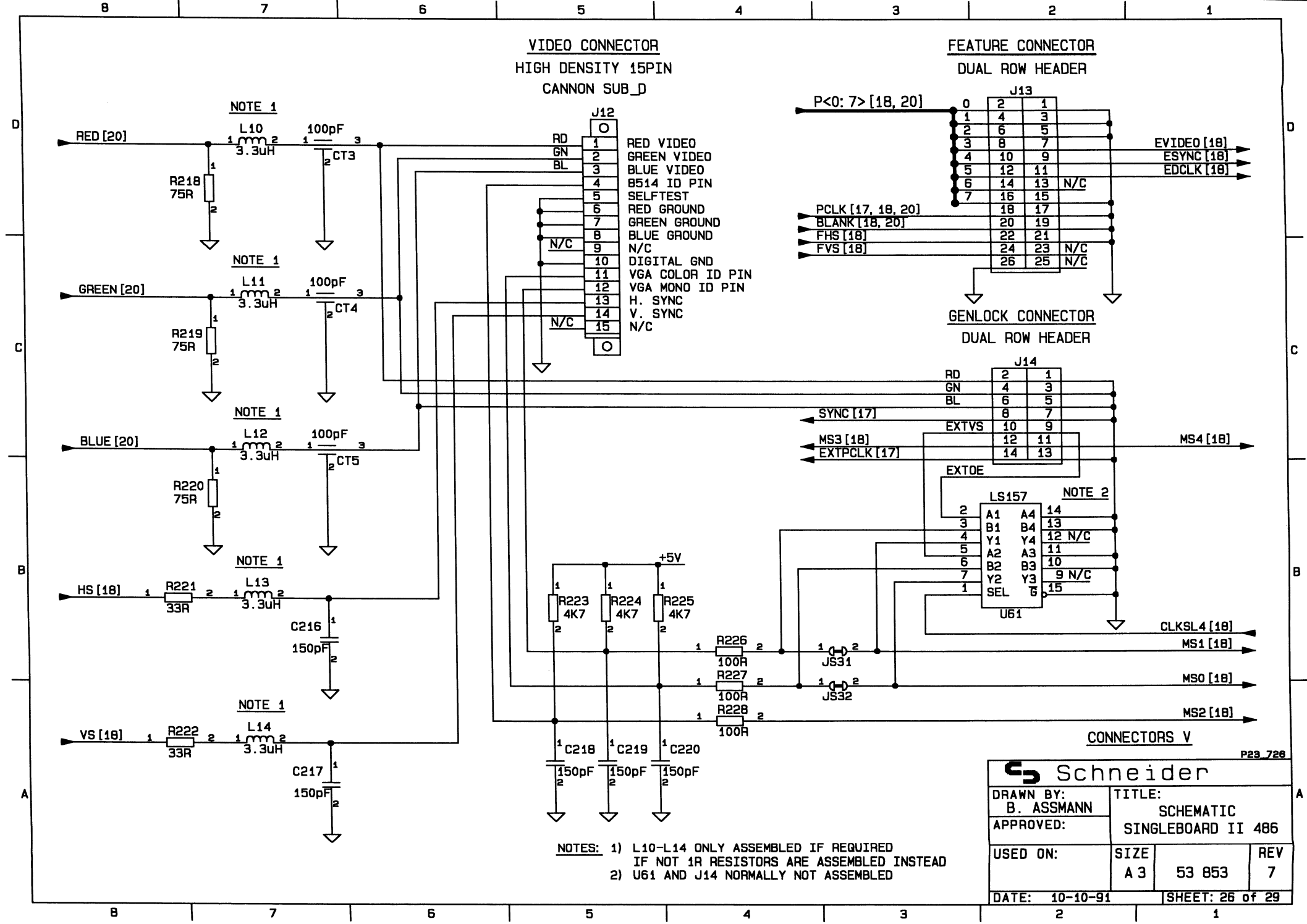


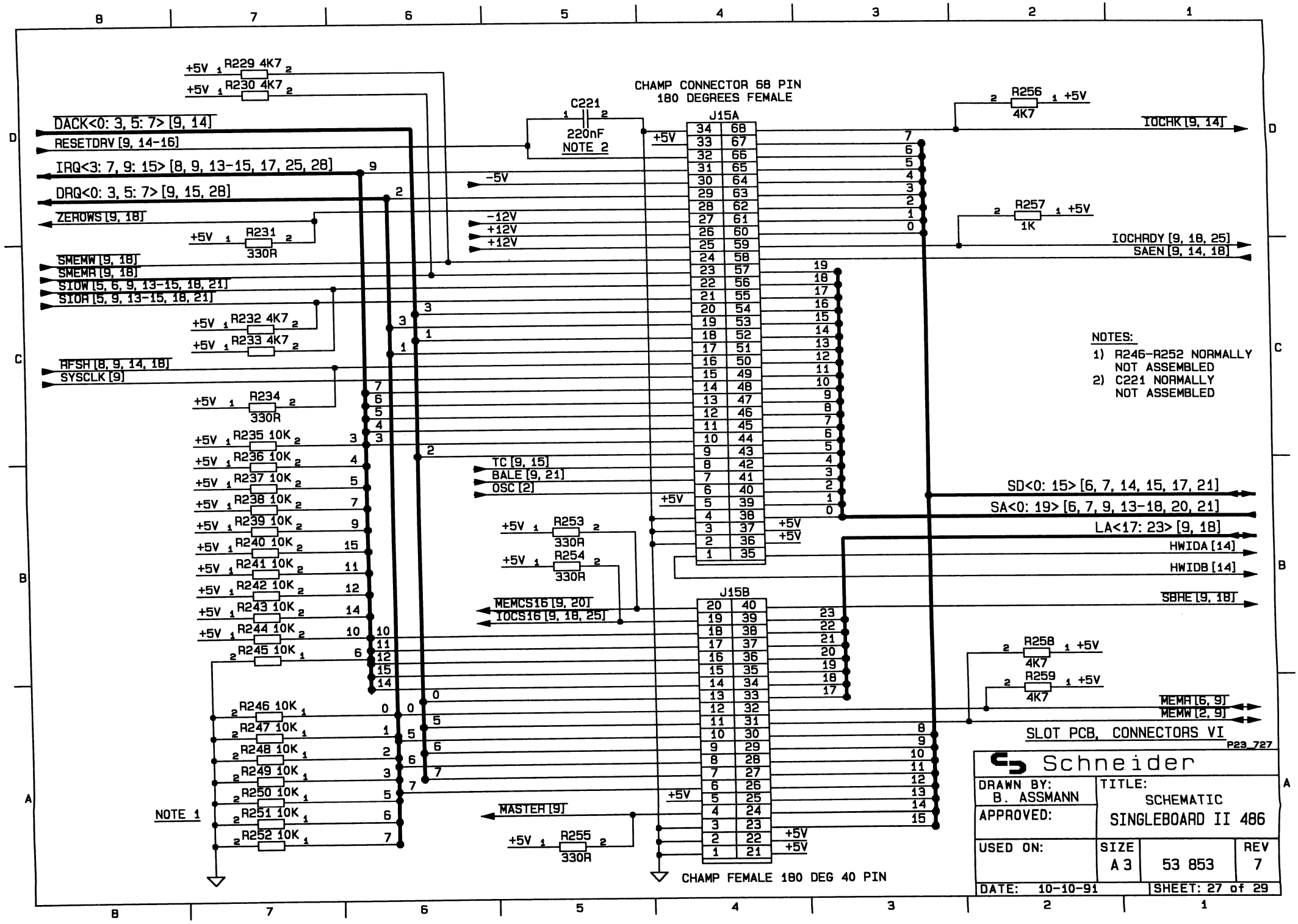

NOTES: 1) JU2 MUST BE OPENED, IF EXTERNAL BATTERY IS CONNECTED TO J11

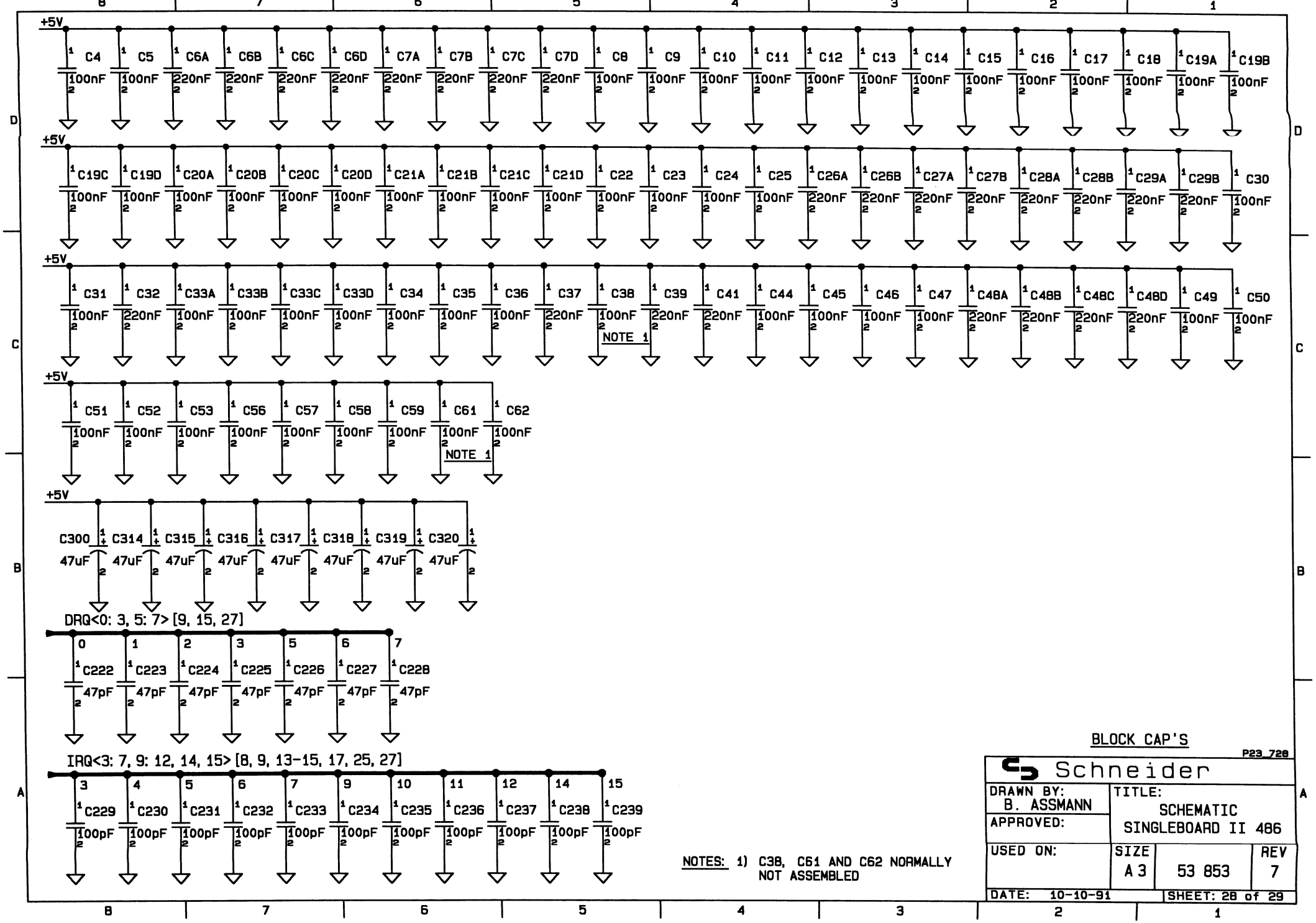
CONNECTORS IV

P23_725

| | | | |
|---|---|---|---|
| Schneider | | | |
| DRAWN BY: B. ASSMANN | TITLE: SCHEMATIC SINGLEBOARD II 486 | | |
| APPROVED: | | | |
| USED ON: | SIZE A 3 | 53 853 | REV 7 |
| DATE: 10-10-91 | SHEET: 25 of 29 | | |


VIDEO CONNECTOR
HIGH DENSITY 15PIN
CANNON SUB_D
FEATURE CONNECTOR
DUAL ROW HEADER
GENLOCK CONNECTOR
DUAL ROW HEADER
NOTE 1
RED [20]
GREEN [20]
BLUE [20]
HS [18]
VS [18]
L10
L11
L12
L13
L14
3.3uH
100pF
CT3
CT4
CT5
R218 75R
R219 75R
R220 75R
R221 33R
R222 33R
C216 150pF
C217 150pF
J12
RD
GN
BL
N/C
RED VIDEO
GREEN VIDEO
BLUE VIDEO
8514 ID PIN
SELFTEST
RED GROUND
GREEN GROUND
BLUE GROUND
N/C
DIGITAL GND
VGA COLOR ID PIN
VGA MONO ID PIN
H. SYNC
V. SYNC
N/C
J13
P<0: 7> [18, 20]
EVIDEO [18]
ESYNC [18]
EDCLK [18]
PCLK [17, 18, 20]
BLANK [18, 20]
FHS [18]
FVS [18]
J14
SYNC [17]
EXTVS
MS3 [18]
EXTPCLK [17]
MS4 [18]
EXTOE
LS157
NOTE 2
U61
+5V
R223 4K7
R224 4K7
R225 4K7
R226 100R
R227 100R
R228 100R
JS31
JS32
C218 150pF
C219 150pF
C220 150pF
CLKSL4 [18]
MS1 [18]
MS0 [18]
MS2 [18]
NOTES: 1) L10-L14 ONLY ASSEMBLED IF REQUIRED
IF NOT 1R RESISTORS ARE ASSEMBLED INSTEAD
2) U61 AND J14 NORMALLY NOT ASSEMBLED
CONNECTORS V
P23_726
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD II 486
USED ON:
SIZE A3
53 853
REV 7
DATE: 10-10-91
SHEET: 26 of 29


CHAMP CONNECTOR 68 PIN
180 DEGREES FEMALE
J15A
J15B
C221
220nF
NOTE 2
R229 4K7
R230 4K7
R231
330R
R232 4K7
R233 4K7
R234
330R
R235 10K
R236 10K
R237 10K
R238 10K
R239 10K
R240 10K
R241 10K
R242 10K
R243 10K
R244 10K
R245 10K
R246 10K
R247 10K
R248 10K
R249 10K
R250 10K
R251 10K
R252 10K
R253
330R
R254
330R
R255
330R
R256
4K7
R257
1K
R258
4K7
R259
4K7
DACK<0: 3, 5: 7> [9, 14]
RESETDRV [9, 14-16]
IRQ<3: 7, 9: 15> [8, 9, 13-15, 17, 25, 28]
DRQ<0: 3, 5: 7> [9, 15, 28]
ZEROWS [9, 18]
SMEMW [9, 18]
SMEMR [9, 18]
SIOW [5, 6, 9, 13-15, 18, 21]
SIOR [5, 9, 13-15, 18, 21]
RFSH [8, 9, 14, 18]
SYSCLK [9]
TC [9, 15]
BALE [9, 21]
OSC [2]
MEMCS16 [9, 20]
IOCS16 [9, 18, 25]
MASTER [9]
IOCHK [9, 14]
IOCHRDY [9, 18, 25]
SAEN [9, 14, 18]
SD<0: 15> [6, 7, 14, 15, 17, 21]
SA<0: 19> [6, 7, 9, 13-18, 20, 21]
LA<17: 23> [9, 18]
HWIDA [14]
HWIDB [14]
SBHE [9, 18]
MEMR [6, 9]
MEMW [2, 9]
NOTE 1
NOTES:
1) R246-R252 NORMALLY NOT ASSEMBLED
2) C221 NORMALLY NOT ASSEMBLED
CHAMP FEMALE 180 DEG 40 PIN
SLOT PCB, CONNECTORS VI
P23_727
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD II 486
USED ON:
SIZE A3
53 853
REV 7
DATE: 10-10-91
SHEET: 27 of 29


+5V
C4 100nF
C5 100nF
C6A 220nF
C6B 220nF
C6C 220nF
C6D 220nF
C7A 220nF
C7B 220nF
C7C 220nF
C7D 220nF
C8 100nF
C9 100nF
C10 100nF
C11 100nF
C12 100nF
C13 100nF
C14 100nF
C15 100nF
C16 100nF
C17 100nF
C18 100nF
C19A 100nF
C19B 100nF
C19C 100nF
C19D 100nF
C20A 100nF
C20B 100nF
C20C 100nF
C20D 100nF
C21A 100nF
C21B 100nF
C21C 100nF
C21D 100nF
C22 100nF
C23 100nF
C24 100nF
C25 100nF
C26A 220nF
C26B 220nF
C27A 220nF
C27B 220nF
C28A 220nF
C28B 220nF
C29A 220nF
C29B 220nF
C30 100nF
C31 100nF
C32 220nF
C33A 100nF
C33B 100nF
C33C 100nF
C33D 100nF
C34 100nF
C35 100nF
C36 100nF
C37 220nF
C38 100nF
NOTE 1
C39 220nF
C41 220nF
C44 100nF
C45 100nF
C46 100nF
C47 100nF
C48A 220nF
C48B 220nF
C48C 220nF
C48D 220nF
C49 100nF
C50 100nF
C51 100nF
C52 100nF
C53 100nF
C56 100nF
C57 100nF
C58 100nF
C59 100nF
C61 100nF
NOTE 1
C62 100nF
C300 47uF
C314 47uF
C315 47uF
C316 47uF
C317 47uF
C318 47uF
C319 47uF
C320 47uF
DRQ<0: 3, 5: 7> [9, 15, 27]
0 C222 47pF
1 C223 47pF
2 C224 47pF
3 C225 47pF
5 C226 47pF
6 C227 47pF
7 C228 47pF
IRQ<3: 7, 9: 12, 14, 15> [8, 9, 13-15, 17, 25, 27]
3 C229 100pF
4 C230 100pF
5 C231 100pF
6 C232 100pF
7 C233 100pF
9 C234 100pF
10 C235 100pF
11 C236 100pF
12 C237 100pF
14 C238 100pF
15 C239 100pF
NOTES: 1) C38, C61 AND C62 NORMALLY NOT ASSEMBLED
BLOCK CAP'S
P23_728
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD II 486
USED ON:
SIZE A3
53 853
REV 7
DATE: 10-10-91
SHEET: 28 of 29

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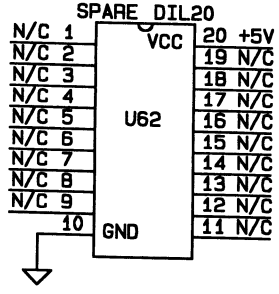
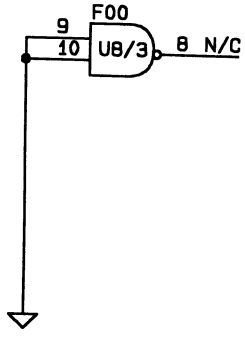
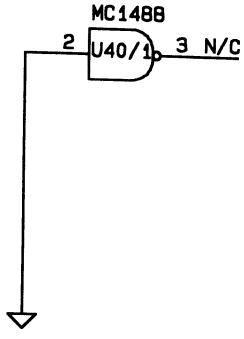
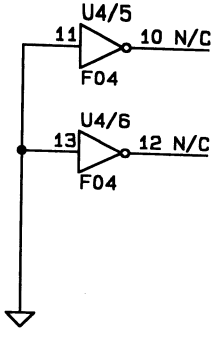
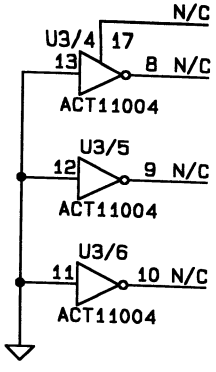
NOTE 1

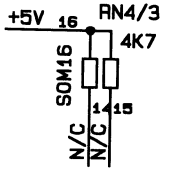


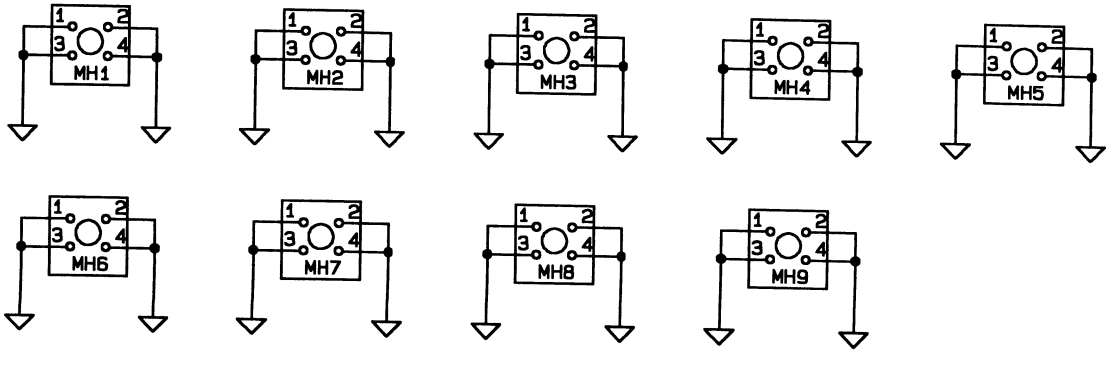




NOTES: 1) SPARE GATE POSITION U62

SPARE GATES

P23_729

Schneider

| | | | |
|---|---|---|---|
| DRAWN BY: B. ASSMANN | TITLE: SCHEMATIC SINGLEBOARD II 486 | | |
| APPROVED: | | | |
| USED ON: | SIZE A 3 | 53 853 | REV 7 |
| DATE: 10-10-91 | SHEET: 29 of 29 | | |

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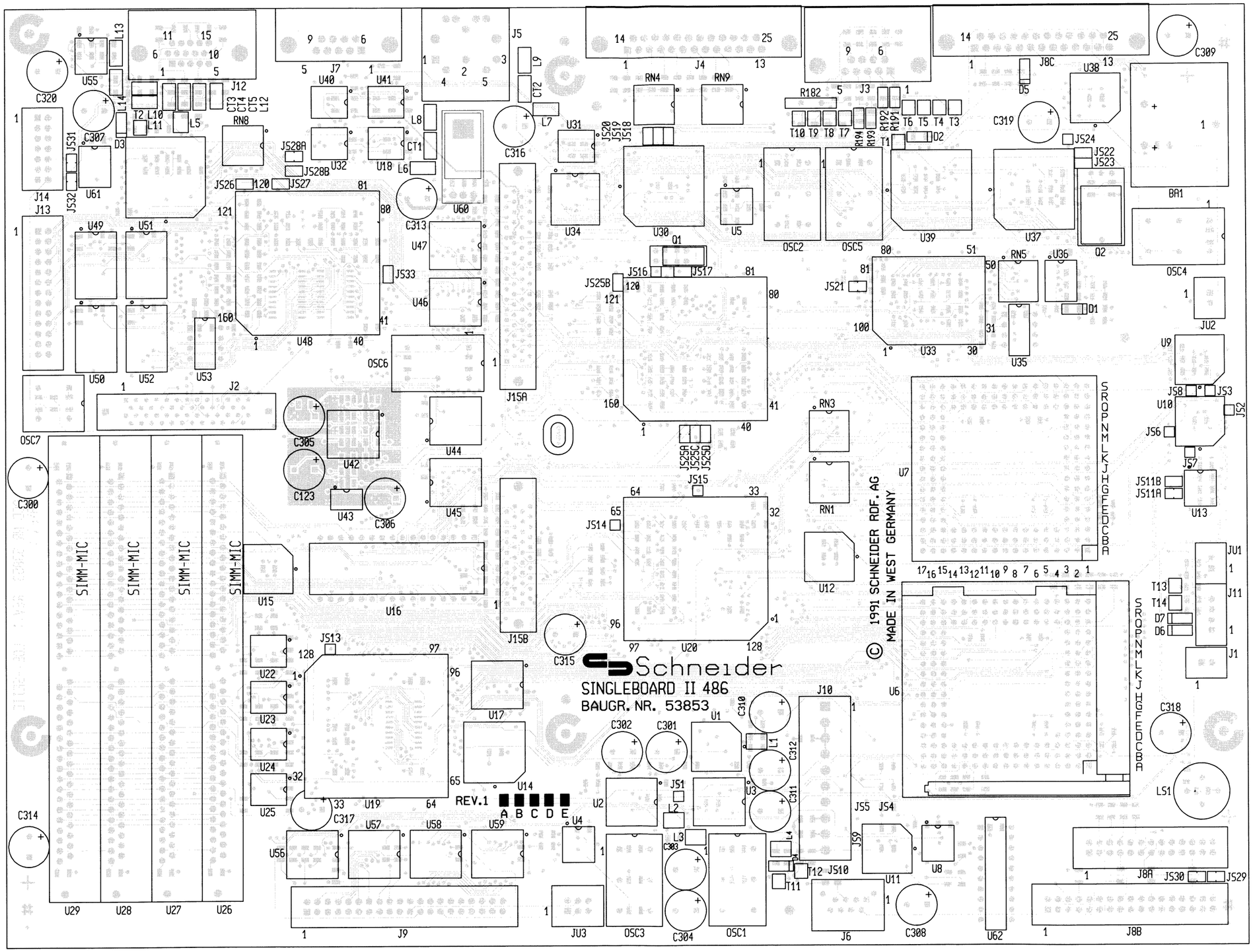
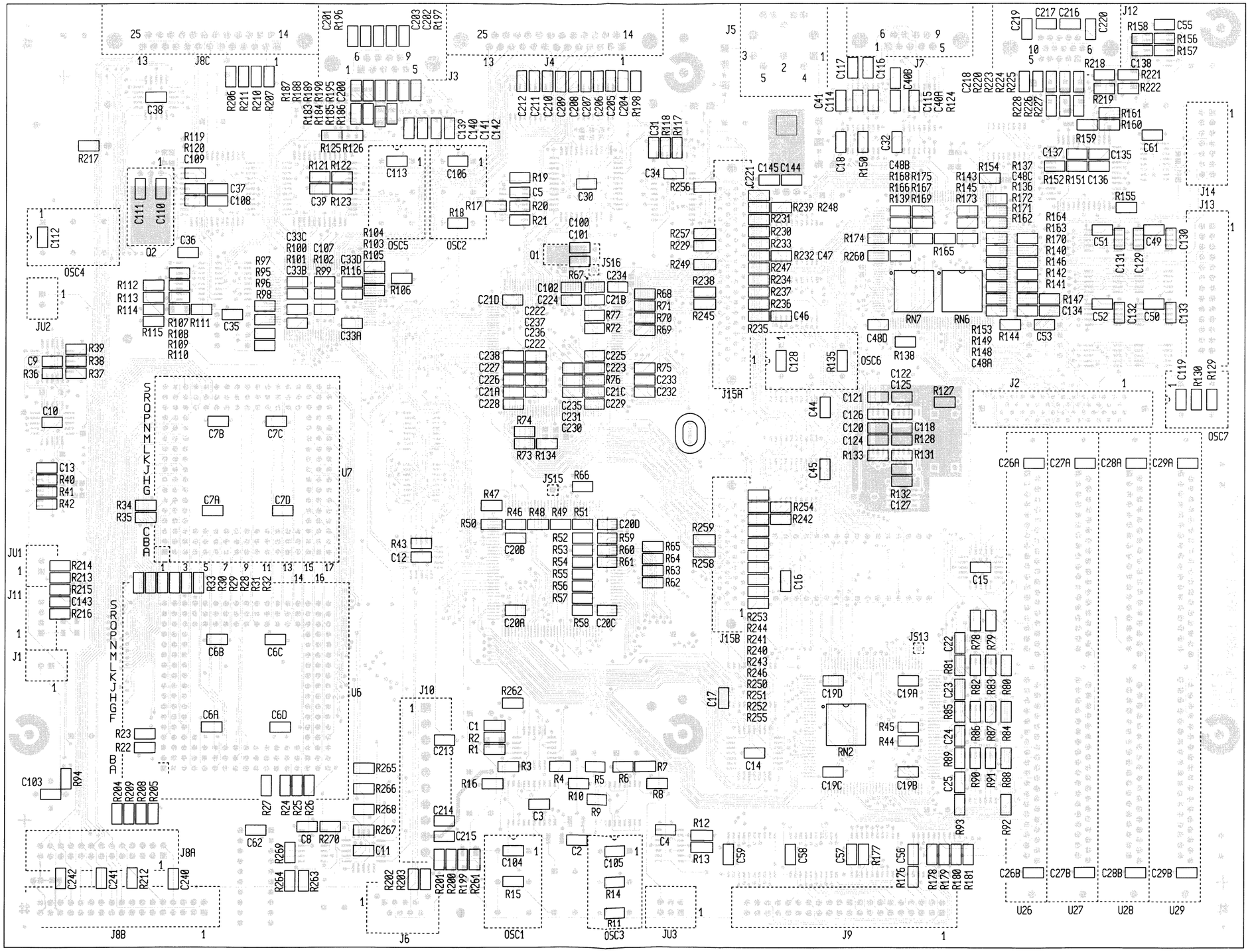
# Ersatzteilliste für Platine CPU 20 MHz
# Parts list for CPU P.C.B. 20 MHz

| Best.-Nr.<br>Part.-No. | Bezeichnung | Description | Zeich.-Pos.<br>Ref.-No. | Preisgruppe<br>Price key |
|---|---|---|---|---|
| 53 747 00 | IC HAL 16 R 4-7 C PLCC20 | IC HAL 16 R 4-7 C PLCC20 | U 1 | C 8 |
| 53 752 00 | IC 74 ACT 11004-DW SO20 | IC 74 ACT 11004-DW SO20 | U 2, 3 | A 7 |
| 53 883 00 | IC 74 F 04 SO14 | IC 74 F 04 SO14 | U 4 | A 7 |
| 52 751 00 | IC 74 ACT 74 SO14 | IC 74 ACT 74 SO14 | U 5 | A 7 |
| 53 886 00 | IC-Fassung PGA 17 X 17 | IC Holder PGA 17 X 17 | U 6 | E 3 |
| 53 885 00 | IC CPU 80486 SX 20 MHz | IC CPU 80486 SX 20 MHz | U 7 | J 2 |
| 53 765 00 | IC-Fassung PGA 17 X 17 | IC Holder PGA 17 X 17 | U 7 | C 4 |
| 51 588 00 | IC 74 F 00 SO14 | IC 74 F 00 SO14 | U 8, 22-25 | A 7 |
| 53 745 00 | IC HAL 16 L8-7C PLCC20 | IC HAL 16 L8-7C PLCC20 | U 9 | C 8 |
| 53 880 00 | IC HAL 16 R4B PLCC20 | IC HAL 16 R4B PLCC20 | U 10 | B 4 |
| 53 881 00 | IC HAL 16 R4B PLCC20 | IC HAL 16 R4B PLCC20 | U 11 | B 4 |
| 53 750 00 | IC HAL 16 R6B PLCC20 | IC HAL 16 R6B PLCC20 | U 12 | B 4 |
| 53 759 00 | IC 74 F 74 SO14 | IC 74 F 74 SO14 | U 13 | A 7 |
| 53 882 00 | IC HAL 20 L8B PLCC28 | IC HAL 20 L8B PLCC28 | U 14 | B 8 |
| 52 729 00 | IC HAL 16 L8B PLCC Prog. | IC HAL 16 L8B PLCC Prog. | U 15 | B 6 |
| 53 891 00 | IC EPROM 128X8-15 DIL | IC EPROM 128X8-15 DIL | U 16 | D 9 |
| 52 182 00 | IC-Fassung 32pol. | IC Holder 32-pin | U 16 | A 5 |
| 51 596 00 | IC 74 LS 273 SO20 | IC 74 LS 273 SO20 | U 17 | A 6 |
| 52 982 00 | IC 74 F 02 SO14 | IC 74 F 02 SO14 | U 18 | A 7 |
| 53 764 00 | IC VL 82C332 | IC VL 82C332 | U 19 | E 0 |
| 53 763 00 | IC VL 82C330-FC3 | IC VL 82C330-FC3 | U 20 | F 6 |
| 52 760 00 | IC VL 82C331 | IC VL 82C331 | U 21 | E 1 |
| 53 953 00 | IC Simm Modul 1M X 36 70nS | IC Simm Module 1M X 36 70nS | U 26 | I 0 |
| 52 873 00 | IC Simm Modul 256K×368 nS | IC Simm Module 256K×368 nS | U 26-29 | G 0 |
| 53 887 00 | IC Simm Sockel 1 X 72pol. | IC Simm Socket 1 X 72-pin | U 26-29 | C 4 |
| 53 884 00 | IC 8042 12 MHz PLCC44 | IC 8042 12 MHz PLCC44 | U 30 | C 3 |
| 51 586 00 | IC 7406 SO14 | IC 7406 SO14 | U 31 | A 9 |
| 51 589 00 | IC 74 F 126 SO14 | IC 74 F 126 SO14 | U 32 | A 3 |
| 50 773 00 | IC BIGJIM TC110G008 | IC BIGJIM TC110G008 | U 33 | D 1 |
| 51 319 00 | IC 74 LS 245 SO20 | IC 74 LS 245 SO20 | U 34, 44-47, 56-59 | A 7 |
| 52 758 00 | IC NMC 9346N DIL8 | IC NMC 9346N DIL8 | U 35, 53 | B 5 |
| 51 318 00 | IC 74 HC 165 SO22 | IC 74 HC 165 SO22 | U 36 | A 9 |
| 50 105 00 | IC WD 37C65A/B-JMOO | IC WD 37C65A/B-JMOO | U 37 | D 5 |
| 53 328 00 | IC 16 C 450 PLCC 44 | IC 16 C 450 PLCC 44 | U 39 | B 9 |
| 52 756 00 | IC MC 1488 SO14 | IC MC 1488 SO14 | U 40 | A 7 |
| 52 757 00 | IC MC 1489 SO | IC MC 1489 SO | U 41 | A 7 |
| 52 752 00 | IC ATI 18810 SO20 | IC ATI 18810 SO20 | U 42 | C 3 |
| 52 750 00 | IC 78 L 05 S08 | IC 78 L 05 S08 | U 43 | A 4 |
| 53 761 00 | IC ATI 28800-5 QPFP160 | IC ATI 28800-5 QPFP160 | U 48 | E 9 |
| 53 329 00 | IC DRAM 256K X 4 80NS | IC DRAM 256K X 4 80nS | U 49-52 | C 9 |
| 53 970 00 | IC TR 9C 1710-80DC | IC TR 9C 1710-80DC | U 54 | C 5 |
| 51 543 00 | IC LM 339 Quad Comparator | IC LM 339 Quad Comparator | U 55 | B 2 |
| 50 238 00 | IC 7905 | IC 7905 | U 60 | A 6 |
| 52 763 00 | Trans. BC 817 | Trans. BC 817 | T 1-6, 11-13 | A 1 |
| 52 764 00 | Trans. BC 807 | Trans. BC 807 | T 7-10, 14 | A 1 |
| 52 765 00 | Diode BAS 32 | Diode BAS 32 | D 1-7 | A 5 |
| 52 777 00 | Batterie 3,6 V | Battery 3.6 V | BAT 1 | C 0 |
| 52 986 00 | Buchse HDD 15pol. | Socket HDD 15-pin | | B 3 |
| 50 949 00 | Buchse SUB-D 9pol. | Socket SUB-D 9-pin | J 3 | C 3 |
| 50 133 00 | Buchse SUB-D 25pol. | Socket SUB-D 25-pin | J 4, J 8 C | B 2 |
| 52 948 00 | Buchse Dioden 5pol. | Socket Dioden 5-pin | J 5 | A 7 |
| 52 985 00 | Buchse SUB-D 9pol. | Socket SUB-D 9-pin | J 7 | A 7 |
| 51 084 00 | Stiftleiste 2×17 | Connector 2×17 | J 8 B | A 7 |
| 51 085 00 | Stiftleiste 2×20 | Connector 2×20 | J 9 | A 7 |
| 52 779 00 | Stiftleiste RM 3,96 | Connector RM 3.96 | J 10 | A 7 |
| 53 247 00 | Stiftleiste RM 2,54 4pol. | Connector RM 2.54 4-pin | J 11 | A 7 |
| 51 569 00 | Stiftleiste RM 2,54 26pol. | Connector RM 2.54 26-pin | J 13, J 8 A | A 7 |
| 51 626 00 | Stiftleiste RM 2,54 2pol. | Connector RM 2.54 2-pin | JU 1, 2 | A 7 |
| 50 374 00 | Steckbrücke RM 2,54 | Connector RM 2.54 | JU 1-3 | A 7 |
| 54 238 00 | Spule 3,3 µH | Coil 3.3 µH | L 1, 5 | A 9 |
| 54 239 00 | Spule 3,3 µH | Coil 3.3 µH | L 2-4 | A 9 |
| 50 332 00 | Summer | Buzzer | LS 1 | A 8 |
| 52 762 00 | Oszillator 40,0 MHz | Oscillator 40.0 MHz | OSC 1 | B 8 |
| 50 833 00 | Oszillator 32,0 MHz | Oscillator 32.0 MHz | OSC 2 | B 8 |
| 52 348 00 | Oszillator 14,3181 MHZ | Oscillator 14.3181 MHz | OSC 3 | B 8 |
| 51 330 00 | Oszillator 1,8432 MHz | Oscillator 1.8432 MHz | OSC 5 | B 8 |
| 50 989 00 | Oszillator 45,0 MHz | Oscillator 45.0 MHz | OSC 6 | B 9 |
| 51 040 00 | Quarz 32,768 kHz | Crystal 32.768 kHz | Q 1 | A 7 |
| 51 093 00 | Quarz 9,6 MHz | Crystal 9.6 MHz | Q 2 | A 8 |
| 50 321 00 | Widerstand PTC 0R75 | Resistor PTC 0R75 | R 182 | B 0 |
| 53 769 00 | R-Netzwerk 15X20K | R, network 15×20K | RN 1 | A 7 |
| 52 769 00 | R-Netzwerk 15X10K | R, network 15×10K | RN 2, 3 | A 7 |
| 52 768 00 | R-Netzwerk 15X4K7 | R, network 15×4K7 | RN 4 | A 7 |
| 52 767 00 | R-Netzwerk 15X1K | R, network 15×1K | RN 5 | A 7 |
| 52 731 00 | R-Netzwerk 8X33R | R, network 8×33R | RN 6-9 | A 7 |

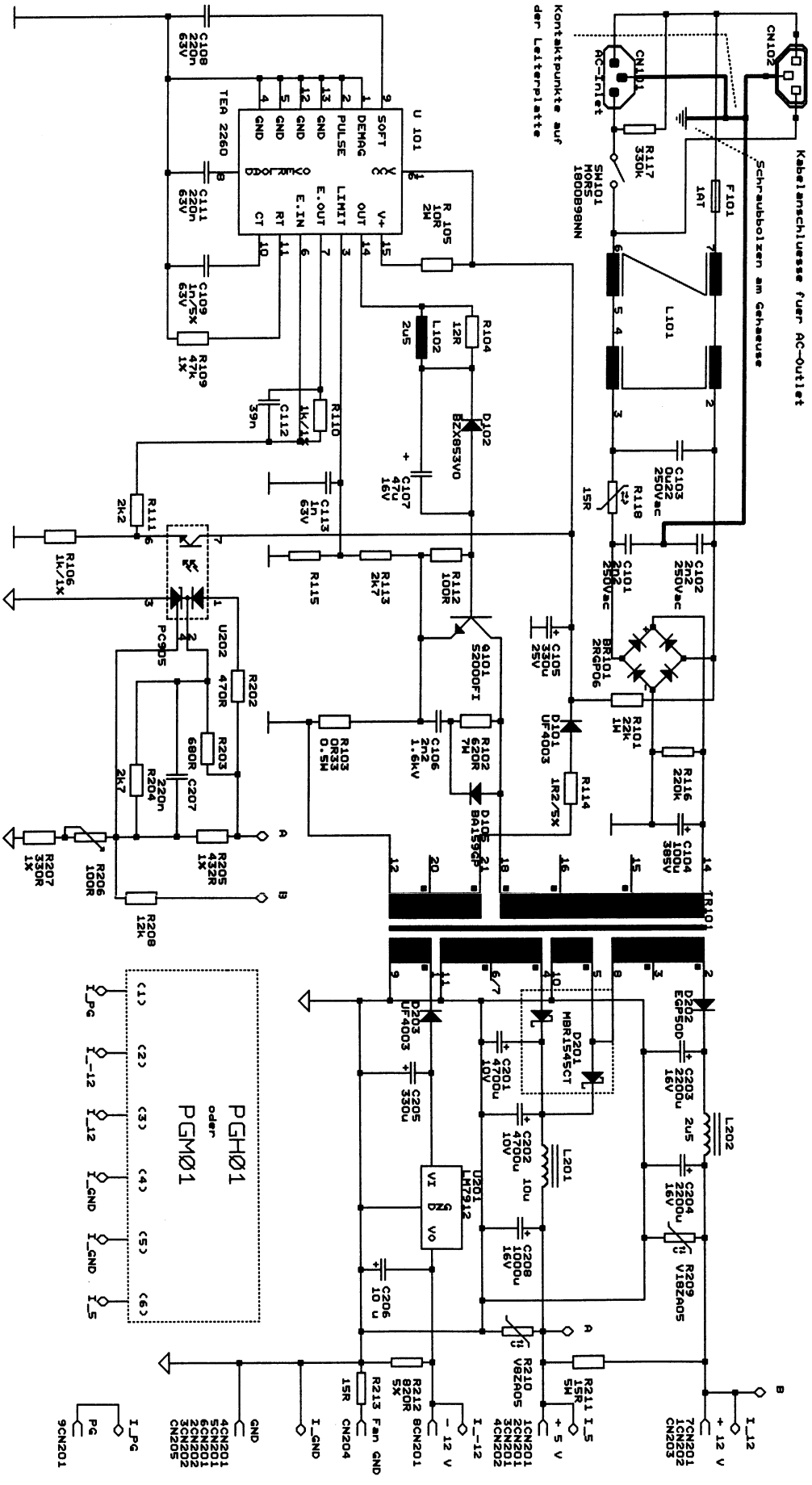
## CPU P.C.B.
### Component side



# CPU P.C.B.
## Soldering side



# Schematic diagram
## Power supply



# Power supply
## Component side